

Nominal subextractions and the Structure of NPs in Serbian and English

Monika Bašić

MPhil-avhandling
Det humanistiske fakultet
Universitetet i Tromsø
Juni 2004

Contents

| | | |
|----------|---|-----------|
| 1 | Introduction | 3 |
| 2 | The Structure of English and Serbian NPs | 7 |
| 2.1 | The Structure of English Noun Phrases | 7 |
| 2.2 | The Structure of Serbian Noun Phrases | 12 |
| 2.2.1 | Prenominal elements | 12 |
| 2.2.2 | The status of DP in Slavic | 15 |
| 2.2.3 | Prenominal Possessives | 20 |
| 2.2.4 | The placement of adjectives | 24 |
| 3 | Extraction Phenomena | 27 |
| 3.1 | Prenominal elements | 27 |
| 3.2 | Postnominal elements | 34 |
| 4 | Previous accounts | 38 |
| 4.1 | The ECP account of LBE | 38 |
| 4.2 | PP-remnant fronting | 44 |
| 5 | The Analysis of Split Constructions | 47 |
| 5.1 | Remnant Movement | 47 |
| 5.2 | The Analysis | 51 |
| 5.2.1 | Deriving XP-splits | 51 |
| 5.2.2 | Motivating the movements | 63 |
| 5.3 | Split XPs with multiple left branch constituents | 76 |
| 5.4 | Extraction of DP-complements in Serbian and English | 85 |
| 6 | Cross-linguistic variation | 89 |
| 7 | Conclusion | 99 |

Acknowledgements

First and foremost, I would like to thank my supervisor, Prof Peter Svenonius for invaluable suggestions and many fruitful discussions we had, not just while writing this thesis, but also during the two years I spent in Tromsø.

Secondly, I would like to thank my fellow students and all the teachers at the faculty for creating a great environment for studying linguistics.

I am grateful to my friends who have practically been my second family here, especially to Zhenja, Patrycja, Kaori, and Madeleine.

My warmest thanks go to Luci, who may have been far away, but was always in my thoughts.

Finally, I am deeply indebted to my parents, Katarina and Zvonimir, and my brother, Nikola for their love, support, and encouragement all these years.

1 Introduction

The present work represents an analysis of constructions referred to in the literature as Left Branch Extractions. Ross (1967) was the first to note that many languages ban movement of left branch constituents from within the noun phrase. This is exemplified below for English and Dutch (Dutch examples are from Corver 1990).

- (1) *English*
 - a. *Which did you like *film*?
 - b. *Whose did you crash *car*?
- (2) *Dutch*
 - a. *Welke zag jij hond van Jan?
which saw you dog of John
'Which dog of John's did you see?'
 - b. *Jans heb ik boek gezien!
John's have I book seen
'John's book I have seen.'

In order to account for the frozen character of these constituents, Ross (1967) formulated a constraint known as Left Branch Condition (LBC).

- (3) *Left Branch Condition*¹
No NP which is the leftmost constituent of a larger NP can be reordered out of this NP by a transformational rule. (Ross 1967/86, p. 127)

However, already Ross himself recognized that the LBC is freely violated in a number of languages, especially those exhibiting relatively free word order. Particularly famous in this respect are Slavic languages such as Serbo-Croatian, Polish, Czech and Russian, which allow all their prenominal elements to be separated from the rest of the noun phrase.²

¹Obviously, not all prenominal elements in (1) and (2) are NPs on standard assumptions. However, in Ross's original analysis, all these constituents were treated as derived from NPs. In other words, demonstratives, adjectives, and possessives are all dominated by an NP layer up to some point in the derivation.

²Serbian is the official name of the language spoken at present in Serbia and Montenegro. Serbo-Croatian was the official name of the language before it split into Serbian, Croatian and Bosnian during the 1990s, and this is how most of the previous literature refers to it. Although I will use the name Serbian, the analysis to be presented carries over to Croatian and Bosnian as well, as all three languages behave in the same way with respect to the phenomenon under

- (4) *Serbian*
- a. *Koliko* *su* *otпусти* *radnika*?
how.many aux fired workers
'How many workers did they fire?'
 - b. *Koju* *su* *zatvorili* *fabriku*?
which aux closed factory
'Which factory did they close?'
- (5) *Czech*
- a. *Jak silného* videl Jan *muže*
how strong saw John man
'How strong a man did John see?'
 - b. *Jakou* čte Petr *knihu*?
which reads Peter book
'Which book does Peter read?'

The phenomenon of LBE has received much attention in the literature. Probably the most detailed study couched in the Government and Binding framework was presented by Corver (1990). Corver assumes that parametric variation results from the interaction of the ECP and the categorial status of noun phrases. The core idea of his proposal is that Slavic languages which do not obey the LBC lack the DP functional layer. On the other hand, in languages with over determiners, D projects a minimality barrier and blocks the extraction of prenominal material.

However, I will argue that a direct extraction approach cannot be maintained despite its initial appeal. A number of important properties of split constructions are not accounted for under a Corver-style approach. Secondly, I will show that the central assumption of Corver's analysis is not supported by empirical evidence. The conclusion will be that the availability of LBE cannot be reduced to the presence vs absence of a DP layer.

By focusing primarily on empirical data from Serbian, I will argue that cases of apparent LBE are actually derived by extracting the non-focused material from the dominating DP/PP. Subsequently, the remnant DP/PP is fronted to the left periphery of the clause. In this respect the term Left Branch Extractions is in fact misleading, since on my assumptions the left branch element does not leave the DP. To avoid confusion, I will thus refer to this phenomenon by using the term *split constructions*, or *XP-splits*. I will show that the remnant movement analysis

discussion.

straightforwardly captures a number of properties otherwise problematic on direct extraction approaches.

On the theoretical side, I will argue that not all movement operations can be characterized in terms of Attraction. A guiding idea of the Minimalist Program is that movement is not optional. It is a last resort operation triggered by the need to check features of lexical items in order to ensure convergence at the interface levels. Chomsky (1995) argues that what triggers movement is a morphological requirement of the target, rather than of the category which moves. The probe attracts the closest element bearing the relevant feature F .

- (6) K attracts α only if there is no β , β closer to K than α , such that K attracts β .

Despite its conceptual elegance, the theory of Attract raises some non-trivial questions. Attractors bearing relevant features must be identified in all cases. That this is not an easy task is evident from the fact that in some cases purely formal features need to be postulated, the role of which is only to trigger movement. Particularly problematic for the view of displacement as a last resort strategy are what seem to be optional operations such as scrambling. The apparent optionality is a characteristic of split constructions as well, pied-piping of the entire DP being a grammatical option.

- (7) a. Koliko radnika su otpustili?
how.many workers aux fired
'How many workers did they fire?'
b. Koju fabriku su zatvorili?
which factory aux. closed
'Which factory did they close?'

I will argue that the movement step responsible for deriving XP-splits is not triggered by Attraction, but is brought about by the properties of the source position. The split arises when two elements within the same phrase bear conflicting features. The assumption that this movement is of different nature will be further supported by the behaviour of split XPs with respect to island constraints.

The thesis is organized in the following way. In Chapter 2, I will give my assumptions concerning the structure of Serbian noun phrases. I will also explore arguments against the DP status of Slavic noun phrases, and conclude that there is no conclusive evidence that would require abandoning the DP-hypothesis for Slavic. Chapter 3, provides the basic descriptive facts concerning the extraction possibilities in Serbian. In Chapter 4, I review some of the previous approaches to the phenomenon under discussion. Chapter 5 forms the core of this thesis where

I present my analysis of split constructions. I will first argue that split XPs are formed by two instances of movement: extraction of the non-focused material, followed by fronting of the remnant XP. I then turn to motivation underlying this type of displacement, and show that it is driven by focus considerations. I also discuss the nature of the first movement step in some detail, arguing that it is best understood as being driven by the properties of the source position. Finally, in chapter 6 I will briefly investigate the possible sources of cross-linguistic variation, and provide some compelling evidence against a Corver-style approach. Chapter 7 summarizes the conclusions drawn from the present study.

2 The Structure of English and Serbian NPs

2.1 The Structure of English Noun Phrases

There is a lot of controversy in the literature concerning the structure of noun phrases, particularly in determining the number and type of functional projections dominating the NP. Traditionally noun phrases were analysed as maximal projections of a lexical head N^0 , as represented in (1).



Investigation of the symmetry between clausal and nominal domains has led researchers to the conclusion that NPs are, like VPs, dominated by functional projections. Thus, Abney (1987) proposes that noun phrases are maximal projections of D, the position where articles are inserted, and assumes the following structure:



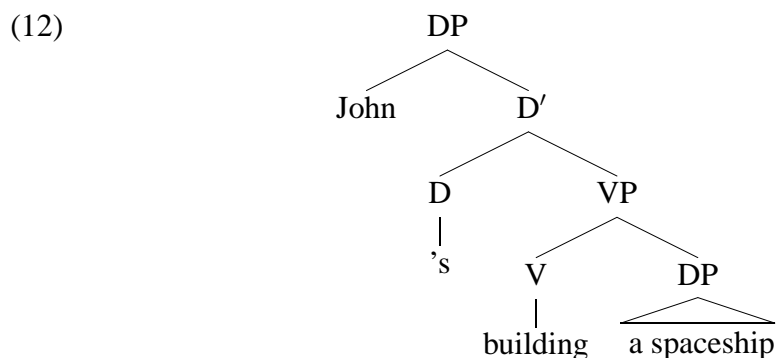
On this approach, the function of the determiner is to specify the reference of the noun phrase by picking out a particular member of the noun's extension. This parallels the function of Infl in the verbal domain, where tense locates a particular event in time. The DP-analysis of noun phrases was further used to account for certain cooccurrence restrictions. For instance, the fact that determiners cannot cooccur with pronominal possessives in English follows on the assumption that they are all heads and occupy the same syntactic position, namely D^0 . D was also argued to host the possessive morpheme 's, which takes the possessor DP as its specifier. This directly captures the ill-formedness of the following examples:

- (10)
- a. *this Peter's article
 - b. *the his article
 - c. *that the article

One of the strongest arguments in favour of the DP-hypothesis was the behaviour of gerundive nominals in English, such as the one below (from Abney, 1987):

- (11) John's building a spaceship

English gerundive nominals show properties of both nominal and verbal phrases. They have the distribution of noun phrases, but internally they show verbal characteristics, for example, taking nominal complements, aspectual auxiliaries, and allowing adverbial modification. The mixed behaviour of gerundive nominals was captured by assuming the structure in (12), where the functional category D takes a VP as its complement.



Since Abney's influential proposal, much work was devoted to establishing the validity of the DP-hypothesis. Bringing cross-linguistic data into consideration, particularly strong support was provided by the presence of overt raising of N to D in some languages. Longobardi (1994), investigating the distribution of determiners and proper names in Italian, notes that adjectives can either precede or follow the proper name when the determiner is present, but when it is lacking the adjectives must follow the noun. On the other hand, in English adjectives must always precede the proper name. The contrast is illustrated below.

- (13) a. (i) E venuto il vecchio Camerese.
 is come the old Camerese
 'The old Camerese has come.'
 (ii) *E venuto vecchio Camerese.
 (iii) E venuto Camerese vecchio.
 b. (i) Old Peter has come.
 (ii) *Peter old has come.

Longobardi (1994) accounts for the observed contrast by assuming that in Italian proper names may move to D by Spellout. If they fail to do so, an expletive article is inserted in D, and the proper name moves to D in LF. On the other hand, in English N raising takes place only in LF, in accordance with the Principle Procrastinate.

Italian shows another interesting contrast. Longobardi points out that while omission of the article is not possible in (14), where the noun phrase is an argument, it is possible in (15), where the nominal expression functions as an invocation (15-a) or a predicate (15-b).

- (14) *(Il) grande amico di Maria mi ha telefonato.
 the great friend of Mary me has telephoned
 ‘The great friend of Mary has telephoned me.’

- (15) a. Caro amico, vieni a trovarmi.
 dear friend, come to visit.me
 b. Gianni e amico di Maria.
 Gianni is friend of Mary’s

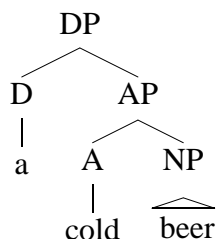
According to Longobardi, the difference resides in the fact that nominal expressions in (15) are not arguments; in order for nominals to function as arguments they must have a lexically filled D. On such a view, NPs are treated as bare predicates, and the function of D is to convert the NP into a referential expression, which can then be used as an argument.

The proposal for introducing a DP functional layer has received a strong empirical support by a series of studies. Thus without going any deeper into the issue, I will assume that the DP layer is present in English. Moreover, I will argue that the DP-hypothesis is also valid for Slavic NPs, which has been a matter of much controversy in the literature on Slavic. I return to this issue in the next section. I first discuss my assumptions regarding the placement of adjectives within DPs.

Attributive adjectives Much debate has centered on the status and position of attributive adjectives. On Abney’s view, adjectives are heads in the extended projection of the noun phrase. The functional head D may select AP as a complement, yielding the following structure for the example in (16).

- (16) a. a cold beer

b.



However, this analysis proved to be unsatisfactory in many respects. One obvious problem is that adjectives within NPs can be phrasal, in other words they can be modified and they can take complements. The structure in (16) leaves no place to accomodate these elements. Consider the following Swedish example, where the adjective *välkänt* ‘well-known’ is premodified by a PP (from Delsing, 1993).

- (17) ett sedan i går välkänt faktum
a since yesterday well.known fact
‘a fact well-known since yesterday’

Furthermore, Svenonius (1994) notes that, if adjectives are heads, we would incorrectly predict that a degree element scopes over all the adjectives that follow it. The Norwegian example below illustrates that the degree element *altfor* ‘much too’ takes scope only over the adjective *heit* ‘hot’, there is no implication that the coffee is too strong as well (from Julien, 2002).

- (18) alt-for heit sterk kafee
all-too hot strong coffee
‘much too hot strong coffee’

Cinque (1994) further observes that the distribution of adjectives in noun phrases closely resembles the distribution of adverbs in the VP. The speaker-oriented adjectives like *probabile* ‘probable’, *sicuro* ‘sure’, are followed by subject-oriented APs. These are in turn followed by manner or thematic APs.³ Consider the example in (19-a), and the corresponding ordering of adverbs within VP in (19-b).

- (19) a. La probabile goffa reazione immediata alla tua lettera.
the probable clumsy reaction immediate to your letter
b. Probabilmente avranno goffamente reagito subito alla tua
probably have-3Pl clumsily reacted immediately to your
lettera
letter

Cinque (1994) entertains two solutions to the question of where APs are generated; either they are adjoined to a maximal projection, or they are generated in distinct specifier positions of functional projections between D and NP. He concludes that the latter alternative is to be preferred on both conceptual and empirical reasons. First, the observed ordering of APs follows from the hierarchical ordering

³Thematic (agentive) adjectives such as *Italian* in *The Italian invasion of Albania* are taken to express the external theta-role of N.

of functional projections in whose Specs APs are generated, whereas the adjunction is typically conceived as being free. Secondly, there is a limit on the number of attributive APs within DP, while adjunction positions are unlimited.⁴ Finally, if APs are generated in specifier positions, the fact that they surface to the left of the head need not be stipulated but follows from the location of specifiers.

Julien (2002) argues that Scandinavian provides evidence in favour of Cinque's proposal. Consider the example (20), which is marginally possible in Norwegian, but fully grammatical in some dialects of Northern Swedish.

- (20) ?eit stor-t eit styg-t eit hus
 indef-N.Sg big-N.Sg indef-N.Sg ugly-N.Sg indef-N.Sg house
 'a big ugly house'

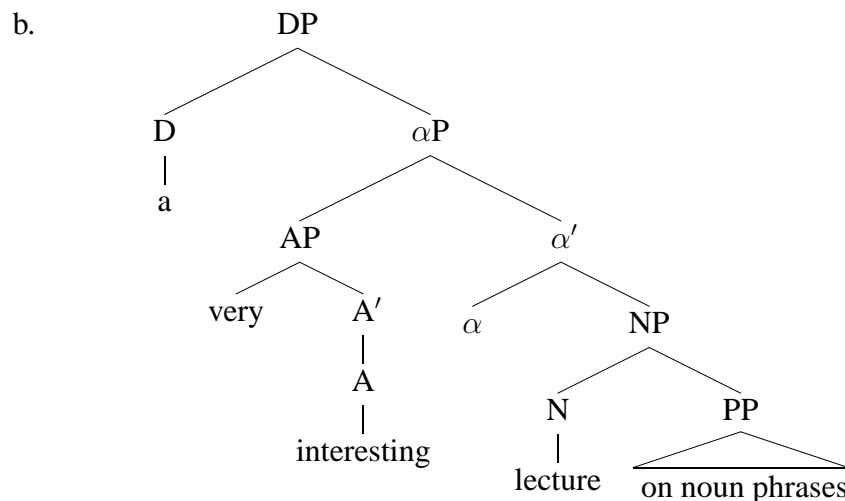
The articles do not show adjectival agreement, which is spelled out by the suffixes on the adjectives. Julien takes this to mean that articles are not contained in APs, but are actually heads of the functional projections in which adjectives are generated.

I thus conclude that the analysis of adjectives according to which they are generated as specifiers of distinct functional projections is preferred over the analyses which treat them either as heads or as phrases adjoined to NP. Moreover, if my analysis of Serbian extraction facts is on the right track, it lends further support to Cinque's proposal.

In conclusion, considering all the arguments presented in this section I will assume that the structure of English noun phrases is as shown in (21). Determiners and pronominal possessives are heads in the D projection. Adjectives are generated in designated specifier positions dominating NP, which I label α P following Julien (2002).

- (21) a. a very interesting lecture on noun phrases

⁴According to Giusti (1993) up to seven adjectives can be combined.



In the next section I turn to the properties of noun phrases in Serbian, outlining the structure I will be assuming in the paper.

2.2 The Structure of Serbian Noun Phrases

2.2.1 Prenominal elements

Material that can precede the noun in Serbian includes the following elements: quantifiers (22-a), demonstratives (22-b), possessives (22-c) and attributive adjectives (22-d). All prenominal elements agree with the head noun in case, number, and gender.

- (22)
- a. sve knjige
all-N.F.Pl books-N.F.Pl
'all books'
 - b. ova knjiga
this-N.F.Sg book-N.F.Sg
'this book'
 - c. Jovanova knjiga
Jovan's-N.F.Sg book-N.F.Sg
'Jovan's book'
 - d. stara knjiga
old-N.F.Sg book-N.F.Sg
'old book'

The neutral word order is illustrated in (23).

- (23) a. quantifier - demonstrative - possessive - adjective

- b. sve ove Jovanove stare knjige
all-N.F.Pl these-N.F.Pl Jovan's-N.F.Pl old-N.F.Pl books-N.F.Pl
'all of these old books of Jovan's'

While universal quantifiers *svi* 'all', and *svako* 'each/every' typically occupy the first position in the prenominal complex and with respect to agreement features behave like other prenominal elements, other quantificational expressions such as *nekoliko* 'several', *mnogo* 'many/much', and numerals *pet* 'five' and higher have less strict distribution and impose the genitive plural form on the noun and the material preceding it.

- (24) a. mnogo starih knjiga
 many-G.Pl old-G.Pl books-G.Pl
 'many old books'
- b. ovih nekoliko slika
 these-G.Pl several-G.Pl pictures-G.Pl
 'these several pictures'

In the appropriate context, the order of prenominal elements can be somewhat flexible, however the following restrictions are observed. Namely, demonstratives cannot switch order with either possessives (25-a) or adjectives (25-b).

- (25) a. *Petrovi oni gosti
 Peter's those guests
 'Peter's those guests'
- b. *dosadni oni gosti
 boring those guests
 'boring those guests'

The indefinite determiners *jedan/neki* 'one/some' pattern with demonstratives.

- (26) *njegov jedan/neki članak
 his one/some article
 'his a/some article'

On the other hand, possessives and adjectives can be inverted when the focus is on the adjective.⁵

⁵Permutation can have a semantic effect though. The example (i-a) refers to the house John formerly owned, while (i-b) refers to an object that Jovan now owns and that was formerly a house

- (27) dosadni Petrovi gosti
boring Peter's friends
'Peter's boring friends'

Quantifiers can also appear in several positions with different effects on interpretation. They can either precede or follow the demonstrative. If they precede the demonstrative, the reading we get is partitive. The contrast is illustrated below.

- (28) a. Prodao je nekoliko ovih knjiga.
sold aux several these books
'He sold several of these books'
- b. Prodao je ovih nekoliko knjiga
Sold aux these several books
'He sold these several books.'

Adjectives immediately precede the noun they modify. Furthermore they are ordered with respect to each other. We have already seen that there are cross-linguistic regularities in the relative ordering of adjectives, although there are considerable differences in labels used for particular classes of adjectives. The partial ordering suggested by Sproat and Shih (1991), and adopted by Cinque (1994) is given in (29):

- (29) evaluating (quality) - size - colour
- a. *English*
beautiful big red ball
- b. *German*
schöner grösser roter Ball

Moreover, Sproat and Shih observe that in languages where all APs follow the noun, the relative order is the mirror image of that in (29), as illustrated by Indonesian below.

(from Bošković 2002).

- (i) a. bivša Jovanova kuća
former Jovan's house
b. Jovanova bivša kuća

- (30) bola merah besar tjantik
ball red big beautiful

The same ordering restrictions are observable in Serbian. Namely, adjectives denoting size must precede the ones denoting colour, whereas both classes follow the evaluating adjectives. All of these are followed by referential adjectives, such as *srpska* in (31).⁶ Immediately preceding the noun are denominal adjectives, such as *svadbena* ‘wedding-adj’.⁷

- (31) ogromna bela srpska svadbena torta
huge white Serbian wedding cake

Permuting the adjectives yields a deviant output.

- (32) a. *svadbena bela torta
wedding-adj white cake
b. *srpska ogromna torta
serbian huge cake

It can thus be concluded that the ordering patterns of prenominal elements in Serbian noun phrases are more restricted than is often assumed. In the next section I turn to the status of DP in Slavic.

2.2.2 The status of DP in Slavic

The headedness of noun phrases in Slavic has been a matter of much debate in the literature. In this chapter, I have already outlined some of the arguments that led researchers to the conclusion that noun phrases are headed by a functional projection hosting determiners in languages such as English. However, in literature on Slavic it has been often argued that the existence of a DP projection on top of an NP is a matter of parametric variation, and in particular that Slavic languages (excluding Bulgarian and Macedonian) lack the DP layer (Corver, 1990; Zlatić, 1997; Stjepanović, 1998; Bošković, 2002). In this section, I review some of the arguments supporting such a proposal, and conclude that the evidence from Slavic languages is not sufficient to force us into abandoning the universality of the DP-hypothesis.

The first argument concerns the observation that Serbian does not have overt

⁶Referential adjectives are typically the ones expressing nationality. They seem to be related to the argument of the verb and exhibit subject-like behaviour. Cinque (1994) labels them as ‘thematic’ adjectives. I use the term referential from Giorgi and Longobardi (1991).

⁷Zlatić (1997) labels these adjectives as *classifying*. I use the term *denominal*, from Bošković (2002).

articles, which are typically seen as instantiations of D.⁰ ⁸ However, it is worth noting that the overtness of articles is in itself not a sufficient argument for the claim that Serbian noun phrases lack the DP projection. Not only has the existence of many nonovert categories been proposed and argued for in the literature, but even limiting ourselves to English, the language for which the DP-hypothesis was originally proposed, we have to assume the existence of null D in cases such as (33) below, as plurals and mass nouns do not require the presence of an overt article.

- (33) a. I don't like scary movies.
b. She drinks coffee with milk.

The second argument concerns the observation that all prenominal elements in Serbian, including demonstratives and indefinite determiners corresponding to English *some* and *one*, as well as possessives, are indistinguishable from adjectives and should be analysed as such. The first piece of evidence refers to the agreement phenomena. Namely, determiners and possessives pattern with adjectives with respect to agreement, that is they agree in number, gender and case with the head noun.⁹ A partial case paradigm is given below:

- (34) a. **nekog** **dosadnog** **čoveka**
 some-G/Acc-M-Sg boring-G/Acc-M-Sg man
b. **nekom** **dosadnom** **čoveku**
 some-Dat/Loc-M-Sg boring-Dat/Loc-M-Sg man
c. **nekim** **dosadnim** **čovekom**
 some-Instr-M-Sg boring-Instr-M-Sg man

Following Corver (1990, 1992), Bošković (2002) further supports this claim by arguing that, just like adjectives, the elements in question can occur in a predicative position of a copula construction (35-a), are able to cooccur (35-b), and have relatively free order (35-c).

- (35) a. Ova knjiga je moja.
 this book is *my/mine
b. ta moja slika
 that my picture

⁸Although I am using Serbian as the representative language, the arguments presented here extend to other Slavic languages as well, apart from Bulgarian and Macedonian which are the only Slavic languages with overt articles.

⁹Agreement markers on adjectives do not always coincide with those on nouns. This is further discussed later in this chapter.

- c. (i) Petrovi dosadni gosti
Peter's boring guests
(ii) dosadni Petrovi gosti
boring Peter's guests

Although, the presented evidence indicates that Serbian determiners and possessives show certain adjectival properties, it does not necessarily lead to the conclusion that Serbian NPs lack a DP projection. Moreover, on closer investigation the behaviour of prenominal elements seems to indicate that they should not be treated uniformly and that they, in fact occupy different positions in the extended projection of NPs.

First of all, we have already seen that the order of prenominal elements is not as free as it seems at first. Namely, determiners cannot switch order with either possessives or adjectives. I will take this to mean that the determiners in Serbian occupy the specifier position of DP (or Dem(onstrative)P as in the analysis of Scandinavian DPs in Julien (2002)).¹⁰ As far as possessives are concerned, I will assume that they appear in Spec of Poss(essive)P.¹¹ All other orders, I am assuming, are derived by movement.

Furthermore, the fact that possessives and determiners cooccur can be captured by assuming that determiners, possessives and adjectives occupy designated specifier positions of different functional projections. The conclusion is also supported by the fact that in many unrelated languages determiners and possessives do cooccur, such as in Norwegian, Hungarian, Italian, Modern Greek etc.

- (36) a. a te kalap-od
the you hat (Hungarian)
b. la mia penna
the my pen (Italian)

The strongest argument for assuming the lack of DP in article-less Slavic languages probably comes from extraction phenomena. Serbian allows extraction of prenominal elements out of NPs in violation of Ross's (1967) Left Branch Condition. Thus, (37-a) is grammatical in Serbian, whereas the corresponding English translation is ill-formed, and the whole DP has to be moved to sentence initial position in English, as illustrated in (37-b).

- (37) a. Čijeg je on gosta istukao?
whose aux. he guest beaten
*‘Whose has he beaten up guest?’

¹⁰Whether determiner-like elements in Serbian are base-generated in SpecDP, or end up there as a result of movement, possibly through AgrP, is irrelevant for my purposes.

¹¹I return to the issue of possessives in the next section.

- b. Whose guest has he beaten up?

The contrast between English and Serbian with respect to the LBC violations has mostly been attributed to the presence vs absence of determiners (Corver 1990, 1992, Bošković 2002). I return to the discussion of left-branch extractions in greater detail in the following chapters, where I argue that the possibility of extraction does not correlate with the presence of articles, and moreover that the constructions in question do not in fact involve the extraction of a prenominal element at all, thus obviating the need to eliminate the DP projection in Slavic NPs.

Considering that the DP layer has become established as a functional projection dominating at least some NPs in all languages, let us investigate the advantages of assuming that it is projected in Slavic NPs as well.

First of all, adopting the DP-hypothesis for Slavic allows us to retain the parallelism between the verbal and nominal domain, in that both VPs and NPs are seen as dominated by functional layers. Such an approach is strongly supported by cross-linguistic evidence. This in turn implies that the presence of DP is not subject to parametric variation, rather the projection of DP is considered a universal property, independent of the presence of a lexical item occupying the head of the projection. That is a welcome outcome. As we have seen, following Longobardi's (1994) influential work, it is standardly assumed that only DPs can appear in argument positions, that is as subjects, objects and complements of prepositions. On the other hand, bare NPs are limited to non-argument positions, such as predikatives, vocatives and exclamatives. The difference in their behaviour is argued to reside in the presence of D which carries a referential index.¹² If the main function of D is to provide a referential index, then this property of D should not be subject to parametric variation. Borer (2003) argues that if that were the case, and we allow for some languages to compute the reference in a completely different way, this would attribute radically different computational systems to different grammars, and weaken the existence of UG as a foundation for all computational systems.

A particularly strong evidence for adopting the DP-hypothesis in Serbian comes from the noun/pronoun asymmetries. Namely, Progovac (1998) observes that in Serbian certain intensifying adjectives precede nouns, but must follow pronouns as illustrated below.

¹²See Baker (2003), and Pereltsvaig (2004) for arguments that NPs lacking a DP layer can function as arguments. This however does not imply that a DP projection is absent. In particular, Pereltsvaig argues that the presence of DP is necessary in Russian to account for a range of empirical data.

- (38) a. (i) I samu Mariju to nervira.
and alone Mary that irritates
'That irritates even Mary.'
(ii) *I Mariju samu to nervira.
and Mary alone that irritates
b. (i) I nju/mene samu to nervira.
and her/me alone that irritates
'That irritates even her/me.'
(ii) *I samu nju/mene to nervira.
and alone her/me that irritates

Similar contrasts are noted by Longobardi (1994) for Italian, where interestingly, the pronoun can precede the adjective only if the article is missing, which suggests that D position is the landing site.

- (39) a. *La sola lei si e presentata.
the only she refl has showed
'Only she showed up.'
b. Lei sola si e presentata.
c. *Sola lei si e presentata.

Progovac (1998) takes this to indicate that pronouns in Serbian move to D in overt syntax, whereas nouns stay in their base-generated positions. Moreover, she argues that Serbian pronouns cannot be generated in D, but rather surface there as a result of movement. The conclusion is based on the observation that pronouns show overt morphology not present on nouns. It was already shown that adjectives agree with nouns in gender, number and case. Sometimes these agreement markers on adjectives and nouns are not identical, and in that case adjectives show heavier agreement. Interestingly, pronouns surface bearing this heavier adjectival agreement. Consider as an illustration, the dative forms of nouns and pronouns.¹³

- (40) a. (i) lep-om(u) čoveku
handsome-Dat.M.Sg man-Dat.Sg

¹³The agreement markers on noun and adjectives in plural typically coincide, except in the genitive form:

- (i) a. lep-ih ljudi
pretty-Gen.Pl people-Gen.Pl
b. njih/ih
they-Gen

- (ii) njemu/mu
he-Dat
- b.
 - (i) lep-oj ženi
pretty-Dat.F.Sg woman-Dat.Sg
 - (ii) njoj/joj
she-Dat
- c.
 - (i) lep-im(a) ljudima
pretty.Dat.Pl people-Dat.Pl
 - (ii) njima/im
they-Dat

Progovac argues that morphological properties of pronouns and adjectives support the existence of another functional projection below D, which she labels AgrP. Pronouns overtly move through this projection to D, whereas nouns procrastinate their movement until LF, and thus do not surface with the same agreement pattern.

Considering that a DP layer is taken to be universal in the present framework, and since there are no convincing arguments against its existence, I will assume that the DP-hypothesis is valid even for languages lacking overt articles, such as Serbian. However, contrary to English where I concluded that determiners are heads, I will assume that in Serbian determiner-like elements occur in the specifier position of DP.

2.2.3 Prenominal Possessives

Following Abney's work, subsequent studies have postulated an even more articulated structure within noun phrases, including additional functional layers between D and N. As was already discussed, extending the functional structure is inevitable once we adopt Cinque's (1994) analysis of adjective placement. Evidence for existence of a different kind of functional head is put forward by Szabolcsi (1994). On the basis of the Hungarian data, she argues that there is a Possessor phrase present within DP. As illustrated below, possessors in Hungarian can surface between the determiner and the noun, triggering agreement in person and number features, which is expressed in the form of a suffix on the possessed NP.

- (41) a. a te kalap-ja-i-d
the you hat-poss-pl-2sg
'your hats'
- b. a Mary kalap-ja-i-0
the Mary-Nom hat-poss-pl-3sg
'Mary's hats'

Possessors in Hungarian appear below the determiner suggesting that they are located below D in the extended projection. The fact that the possessor surfaces bearing nominative case indicates that it appears in a structural subject position, corresponding to the position of subjects in the finite clause. On this view, D is regarded as parallel to C in the verbal domain.

I will assume that possessors in Serbian should receive a similar analysis, in particular that they appear in the specifier position of PossP, projected below the DP. Prenominal possessives in Serbian are formed from unmodified, singular, animate nouns. As was already discussed, in the literature on Serbian they were treated as adjectives, along with other prenominal elements. However, treating possessives on a par with adjectives leaves some aspects of their behaviour unexplained. On the one hand, possessives pattern with adjectives with respect to agreement, i.e. they agree with the head noun in case, gender and number. However, with respect to binding possibilities possessives show nominal properties. Let me illustrate the latter point first, before turning to adjectival properties of possessives.

Serbian uses the following pronouns to express reflexivity: the reflexive pronoun *sebe*, the clitic reflexive pronoun *se*, and the possessive reflexive *svoj*. Serbian reflexives are subject-oriented, in that they favour clausal subjects as their antecedents.

- (42) Petar_i je dao Mariji_j $\text{svoju}_{i/*j}$ knjigu.
 Peter aux gave Mary self's book
 'Peter gave Mary his book.'

Nevertheless, Zlatić (1997) observes that possessives are able to bind anaphors as illustrated in the following example:

- (43) Petar_i je slušao Marijino_j opisivanje $\text{svoje}_{*i/j}$ majke.
 Peter aux listened Mary's description self's mother
 'Peter listened to Mary's description of her mother.'

The noun *opisivanje* in (43) belongs to the class of complex nominals in the sense of Grimshaw (1990). It has been argued in the literature that complex nominals embed verbal functional projections, with possessives acting as subjects (see Alexiadou, 2001; Schoorlemmer, 1998). This means that at some level of derivation possessives within Serbian nominals function as subjects, which enables them to bind the reflexive. Note that with non-complex nominals the reflexive has to be

bound by the clausal subject.

- (44) Peter_i je pročitao Marijinu_j knjigu o sebi_{i/*j}.
Peter aux. read Mary's book about self
'Peter read Mary's book about him.'

If possessives are treated uniformly as adjectives, their behaviour with respect to binding is left unexplained. Notice that even referential adjectives cannot act as syntactic subjects, as shown in (45-b) where a referential adjective is not able to bind a reflexive in the object position.

- (45) a. John's destruction of himself
b. ??the American destruction of themselves

In light of these facts, I will assume that possessives are generated as subjects within complex nominals, and subsequently move, possibly through an agreement projection, to Spec of PossP. The possessor phrase is projected on top of adjectives, but below the projection in which demonstratives appear, namely DP, thus reflecting the neutral word order.¹⁴ SpecPossP is therefore seen as a structural licensing position, equivalent to SpecIP in clauses. The possessive marking, which in Serbian surfaces as *-ov/-in* suffix on the possessive noun, can be seen as a morphological reflex of this formal licensing. Schoorlemmer (1998) argues that possessors show properties of structurally licensed elements; they can have different thematic roles, but only one possessor can appear within a DP. For instance, in complex nominals possessives can be interpreted as either an agent, or a theme. In example (46), where the possessive is the only argument of the noun, it is actually ambiguous between the two interpretations:

- (46) Jovanovo saslušavanje je trajalo satima.
Jovan's interrogation aux. lasted hours
'The interrogation of/by Jovan lasted for hours.'

However, if both the agent and the theme argument are present, the theme role must be expressed as a postnominal genitive NP. The agent and theme cannot both appear as possessors (47-b).

¹⁴Notice also that the behaviour of possessives provides evidence for assuming that word-formation processes are done in syntax, rather than in a separate morphological component.

- (47) a. Jovanovo saslušavanje osumnjičenih je trajalo satima.
Jovan's interrogation suspects aux lasted hours
'Jovan's interrogation of the suspects lasted for hours.'
- b. *Moje Jovanovo saslušavanje je trajalo satima
my Jovan's interrogation aux lasted hours
intended: 'My interrogation of Jovan lasted for hours.'

The ungrammaticality of (47-b) cannot be due to the semantic restriction that 'possession' can only be expressed once, since neither of these arguments actually expresses semantic possession. The ill-formedness of (47-b) is also unexpected if possessives are treated as adjectives, the latter typically being iterable.

We have seen that in contrast to English, possessives in Slavic occur in a predicate position of a copular construction, which was used as an argument in favour of treating Slavic possessives as adjectival. The relevant example is repeated below.

- (48) Ova knjiga je moja.
this book is *my/mine

On the disjoint analysis of possessives and adjectives assumed here, the grammaticality of (48) cannot be due to the fact that possessives are adjectives. Notice that English possessives can occur predicatively, but in such contexts a longer form *mine* must be used. This can be taken to indicate that English possessives show weak/strong opposition as suggested by Cardinaletti (1998). In fact, she argues that Italian prenominal possessives, which have traditionally been treated as adjectives, are licensed in the prenominal 'subject' position, corresponding to Spec,AgrS in the clausal domain. Alternatively, Schoorlemmer (1998) argues that the difference between English-type languages, and Serbian-type languages resides in the ability of Poss to carry a definiteness feature. She observes that only languages that do not allow articles with possessors and indefinite possessor DPs have a special form in ellipsis. According to Schoorlemmer these three properties can be explained under the assumption that there is a PossP projection equivalent to IP in clauses, and the head of this phrase has a variable feature [def], which forces it to move to D. If an article is inserted in D, movement of Poss-to-D cannot occur and the derivation crashes due to the unchecked strong [def] feature. The obligatory raising to D thus accounts for the lack of articles in possessive constructions in languages such as English, German, Dutch, and French, as well as the fact that examples with prenominal possessors are necessarily definite. In the absence of [def], Poss movement does not take place. As a consequence, possessors freely occur with articles and other determiner-like elements, and con-

structions with prenominal possessors can in fact be indefinite, as in the following examples from Bulgarian and Italian.

- (49) a. Edin negov prijatelj
 a/one his friend
 b. Un suo amico
 a/one his friend

Schoorlemmer assumes that the morphological shape of the possessor is sensitive to whether the possessor is sister to Poss or just the trace of Poss. In elliptical constructions, Poss is *pro*, which raises to Poss, and having the feature [def], is able to check the feature of Poss, precluding it from moving all the way to D. In types of languages where the form of possessor is always the same, the sister of the possessor is always Poss, since due to the lack of [def], Poss never moves all the way to D.

I thus conclude that in order to account for the different behaviour of English and Serbian possessors, we are not committed to treating Serbian possessive forms as adjectives. In fact, some aspects of their behaviour remain unexplained if we adopt such a proposal. I will thus maintain that possessors should be treated as appearing in PossP, at least at some point in the derivation, while the differences in their behaviour should be sought elsewhere.

2.2.4 The placement of adjectives

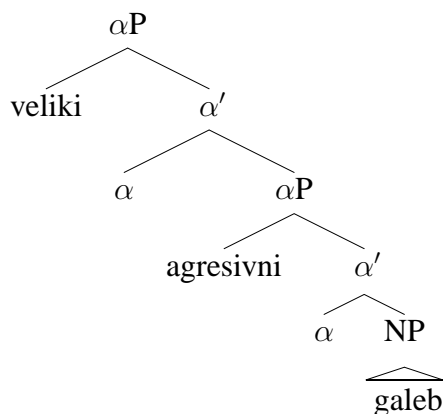
The discussion so far has led me to the conclusion that prenominal elements cannot be treated uniformly, in other words they should not all be treated as adjectives occupying multiple specifier positions of NP.¹⁵

I have already argued that attributive adjectives in English are generated in specifier positions of functional projections dominating NP, thus essentially adopting the proposal of Cinque (1994). Considering all the arguments in support of this conclusion, I will assume the same analysis for attributive adjectives in Serbian. Thus, I take them to be generated in what I have labelled α P, dominating the NP.

- (50) a. veliki agresivni galeb
 big-M.Sg aggressive-M.Sg seagull-M.Sg
 ‘big aggressive seagull’

¹⁵Adjectives are placed within the NP in the analysis of Bošković (2002), Corver (1990, 1992), Zlatić (1997).

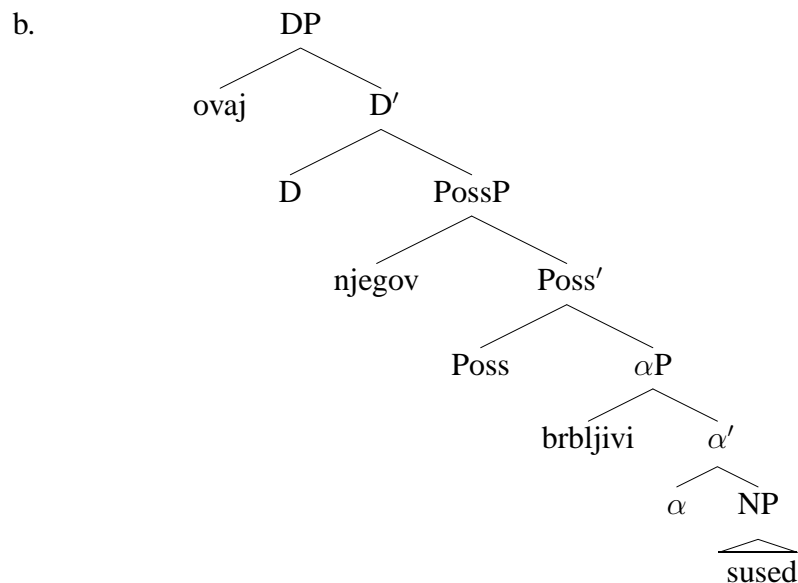
b.



The proposed structure enables us to formally state the ordering restrictions on attributive adjectives, assuming that there is universal ordering of functional projections in whose specifiers adjectives are generated. Moreover, on the approach to extraction phenomena argued for in the following chapters, the fact that adjectives are not adjoined to NP, but rather surface in distinct functional projections, will become crucial. The observation that adjectives, along with other prenominal elements, show agreement with the head noun does not imply that they all need to be generated within the NP projection. The agreement can be established by either moving the elements in question through an agreement projection, or more plausibly the agreement does not require overt movement at all, and it can be established between the noun and prenominal elements in their base positions, which I take to be functional positions on top of NP (cf. Chomsky 2000, 2001). Similar assumptions are made by Julien (2002), who argues that agreement in Scandinavian DP is established without movement.

Bringing all the observations together, I am assuming the following structure of noun phrases in Serbian.

- (51) a. ovaj njegov brbljivi sused
 this his talkative neighbour
 ‘this talkative neighbour of his’



To conclude, I will basically be assuming that the structure of noun phrases is the same in English and Serbian, and in particular that Serbian NPs, just like English contain a DP functional layer. The goal of the following chapters will be to justify this assumption by dispensing with the main argument against DP status of Serbian NPs, namely the difference in extraction possibilities between the two languages. I will show that both in English and in Serbian prenominal constituents are not extracted from within the DP, while in both languages it is possible to remove DP-complements under certain conditions. Before giving the analysis of Serbian split phrases that does not rely on the presence vs absence of D, I turn first to the overview of extraction possibilities.

3 Extraction Phenomena

In this section, I present the relevant empirical data regarding extraction possibilities from DPs in Serbian, which will be the main focus of this thesis. I first explore different extraction patterns of prenominal elements, and then briefly comment on the availability of extracting postnominal constituents.

3.1 Prenominal elements

It was noted by Ross (1967) that movement of prenominal elements from within the noun phrase is ungrammatical in many languages. In order to account for inaccessibility of these constituents, Ross (1967) formulated the so called Left Branch Condition (LBC), which blocks extraction of determiners, possessors, and adjectival phrases in languages such English and Dutch, illustrated below (Dutch examples are from Corver 1990).

(52) *English*

- a. **Which* did you like *film*?
- b. **Whose* did you crash *car*?
- c. **Lazy* he hates *people*.
- d. **How much* did he drink *beer*?

(53) *Dutch*

- a. **Welk zag jij hond van Jan?*
which saw you dog of John
'Which dog of John's did you see?'
- b. **Jans heb ik boek gezien!*
John's have I book seen
'John's book I have seen.'
- c. **Hoe interessante heeft Jan een lezing gegeven?*
how interesting has John a lecture given

If a left branch constituent is the target of movement, the entire noun phrase must be carried along in order to get a grammatical output. In other words, LBC forces obligatory pied-piping of the dominating noun phrase, in the manner illustrated below.

- (54)
- a. Which film did you like?
 - b. Whose car did you crash?

- c. How much beer did he drink?

However, already Ross (1967) observed that nonextractability of left branch constituents is not a universal property. Certain languages freely violate the Left Branch Condition. It is a well-known fact that prenominal elements are accessible to extraction in Slavic languages, such as Russian, Polish, Czech and Serbian. Thus, the sentences corresponding to the English and Dutch ill-formed examples are completely grammatical in Slavic.¹⁶ Consider the following Czech and Polish examples, taken from Corver (1990).

(55) *Czech*

- a. *Jak silného videl Jan muže*
how strong saw John man
'How strong a man did John see?'
- b. *Jakou čte Petr knihu?*
which reads Peter book
'Which book does Peter read?'

(56) *Polish*

- a. *Które Jan namalował obrazy?*
which John painted paintings
'Which paintings did John paint?'
- b. *Czyje on pożyczył kalosze?*
whose he borrowed galoshes
'Whose galoshes did he borrow?'

Serbian patterns with Polish and Czech in this respect. Any prenominal element can be moved out of the noun phrase. The possibility of extracting a quantifier (57-a), demonstrative (57-b), possessive (57-c), and adjective (57-d) is exemplified below.

- (57) a. *Koliko su otpustili radnika?*
how.many aux fired workers
'How many workers did they fire?'

¹⁶Bošković (2002) points out that Bulgarian and Macedonian, the only Slavic languages with overt articles, disallow LBE. He takes this to strongly support Corver's assumptions. I return to this issue in chapter 6, where I show that Corver's claim cannot be maintained.

- b. *Koju* su zatvorili *fabriku*?
which aux closed factory
'Which factory did they close?'
- c. *Čiju* su objavili *knjigu*?
whose aux. published book
'Whose book did they publish?'
- d. *Kakav* su kupili *stan*?
what.kind aux bought flat
'What kind of flat did they buy?'

Alternatively, the fronted left branch constituent can pied pipe the whole noun phrase, as in English and Dutch.

- (58)
- a. *Koliko* radnika su otpustili?
how.many workers aux fired
 - b. *Koju* fabriku su zatvorili?
which factory aux. closed
 - c. *Čiju* knjigu su objavili?
whose book aux published
 - d. *Kakav* stan su kupili?
what.kind flat aux bought

The examples so far involved the extraction of interrogative phrases from within the object position. The following sentences illustrate that DP-splits do not arise only in wh-movement contexts.

- (59)
- a. *Andrićevu* su preveli *knjigu*.
Andrić's aux translated book
'They translated Andrić's book.'
 - b. *Stare* su srušili *kuće*
old aux tore.down houses
'They tore down old houses.'

Left branch extractions are not necessarily confined to a single clause. The target of the movement can be a left branch constituent in the embedded clause. In the following examples, the interrogative phrases *koji* 'which', and *koliko* 'how much', are fronted across a clausal boundary.

- (60) a. *Koji si čuo da je auto slupao?*
 which aux heard that aux car crashed
 ‘Which car did you hear he crashed?’
- b. *Koliko misliš da je piva popio?*
 how.much think that aux beer drunk
 ‘How much beer do you think he drank?’

Subject DPs also belong to the set of nodes which are transparent for subextraction. This is illustrated in (61-a), where the pronominal dative clitic *nam*, and the auxiliary clitic *je* intervene between the demonstrative and the noun. The second example shows that the noun phrase need not be separated.

- (61) a. *Ovaj nam je predsednik obećao veće plate.*
 this us-cl aux-cl president promised higher salaries
 ‘This president promised us higher salaries.’
- b. *Ovaj predsednik nam je obećao veće plate.*
 this president us-cl aux-cl promised higher salaries

Zlatić (1997) argues that sentences with clitics intervening cannot be used as a reliable evidence that left-branch elements are actually removed from the subject noun phrase. However, this is only the case if we adopt an analysis of clitic placement which employs PF reordering of elements, such as Halpern’s (1995) account. On such a view, noun phrases are split up in the PF component. The clitic is sentence initial in the output of syntax. Prosodic Inversion (PI) then places the clitic after the first accented word. The ability of clitics to break up phrasal constituents was thus considered the strongest argument for PF reordering. However, insofar as the analysis to be proposed here is on the right track, it will provide further support to syntactic accounts of clitic placement by showing that split-XPs are the result of syntactic movement.¹⁷

¹⁷Notice that while the grammatical (i-a) cannot be derived by PI, (i-b) is wrongly predicted to be well-formed:

- (i) a. *Čiji je Marko auto slupao?*
 whose aux-cl Marko car crashed
 ‘Whose car did Marko crash?’
- b. **Prema je kući Jovan trčao.*
 towards aux-cl house Jovan ran

For additional arguments against Halpern (1995) see Progovac (1996) and Bošković (2001).

It is also possible to split the subject of the embedded clause. Consider the following examples:

- (62) a. *Koji misliš da će kandidat pobediti na izborima.*
 which think that will candidate win at elections
 ‘Which candidate do you think will win the elections.’
- b. *Koliko misliš da je stiglo pisama?*
 how.many think that aux arrived letters
 ‘How many letters do you think have arrived?’
- c. *Čije misliš da su knjige objavljene?*
 whose think that aux books published
 ‘Whose books do you think were published?’

Starke (2001) observes that while both preverbal and postverbal position are available for subjects, extracting out of the preverbal position makes the sentence unacceptable in Czech/Slovak. Extracting out of a postverbal subject is equivalent to extracting out of an object. The contrast is illustrated below.

- (63) a. *Kolik myslis ze prislo dopisu?*
 how.many think that arrived letters
- b. **Kolik myslis ze dopisu prislo?*
 how.may think that letters arrived

The same is not true of Serbian, that is preverbal subjects are not opaque for extraction. In fact, all cases of extraction in Serbian actually improve if the remnant of the subextraction precedes the verb.¹⁸

- (64) a. *Koliko misliš da je pisama stiglo?*
 how.many think that aux letters arrived
- b. *Koju su oni fabriku zatvorili?*
 which aux they factory closed
 ‘Which factory did they close?’
- c. *Čiju je on knjigu preveo?*
 whose aux he book translated
 ‘Whose book did he translate?’

¹⁸According to my Russian informants, Russian patterns with Serbian in this respect.

The following examples show that extraction of left branch elements from within NP complements is disallowed.

- (65) a. (i) On je pozajmio knjigu ovog studenta.
 he aux borrowed book this student
 ‘He borrowed a book of this student.’
- (ii) **Kojeg* je on pozajmio [knjigu *studenta*]?
 which aux he borrowed book student
 ‘Of which did he borrow a book student.’
- b. (i) On je izgubio adresu njihove sestre.
 he aux lost address their sister
 ‘He lost the address of their sister.’
- (ii) **Čije* je on izgubio [adresu *sestre*]?
 whose aux he lost address sister
 ‘Of whose did he lose address sister?’

In example (65-a-ii), the wh-word *kojeg* ‘which’ corresponding to the demonstrative in the declarative sentence, cannot be moved out of the postnominal NP complement. The same is true of the possessive interrogative in (65-b-ii). NP complements thus form opaque domains for extraction.

All the examples presented so far involved the extraction of a left branch constituent from within nominal phrases. I now turn to the conditions under which prepositional phrases can be split.

PP Splits It is a well-known fact that Slavic languages strictly prohibit preposition stranding. The complement of the preposition cannot be fronted leaving the preposition behind as in (66-b), nor can the preposition itself be moved to the sentence initial position, stranding the complement as in (66-c). Thus, even though Slavic languages are known for great freedom in ordering of constituents, no permutation of elements that separates the preposition from its complement is permitted (the example is taken from Abels (2003)).

- (66) a. Jovan je trčao prema velikoj kući.
 Jovan aux ran towards big house
 ‘Jovan ran towards a big house.’
- b. **Velikoj kući* je Jovan trčao prema.
 big house aux Jovan ran towards

- c. **Prema* je Jovan trčao *velikoj kući*.
towards aux Jovan ran big house

Nevertheless, PPs can be discontinuous under certain conditions. In the following examples, a left branch constituent is fronted together with the preposition. Alternatively, the whole prepositional phrase can be pied-piped, as illustrated in (67-c).

- (67) a. *Prema velikoj* je Jovan *kući* trčao.
towards big aux Jovan house ran
b. *Sa kojim* je Nataša *profesorom* razgovarala?
with which aux Nataša professor talked
'Which professor did Nataša talk to?'
c. *Sa kojim profesorom* je Nataša razgovarala?
with which professor aux Nataša talked

On the other hand, the movement cannot affect the preposition and the noun, leaving the prenominal modifiers behind.

- (68) **Prema kući* je Jovan trčao *velikoj*.
towards house aux Jovan ran big

Finally, consider the following examples where the prepositional phrase contains a left branch modifier. In that case, the modifier of the preposition must be carried along with the fronted part of the PP.

- (69) a. On je ušao pravo u veliku sobu.
he aux entered straight into big room
'He went straight into the big room.'
b. *Pravo u veliku* je on ušao *sobu*.
straight into big aux he entered room
c. **U veliku* je on ušao *pravo sobu*.
into big aux he entered straight room

The discussion so far addressed only the conditions under which prenominal constituents can be extracted from either nominal or prepositional phrases. Before turning to the analysis of the presented facts, I will briefly explore the mobility of postnominal elements.

3.2 Postnominal elements

Facts concerning the extraction of postnominal elements seem to be much less clear and constant, with the amount of degradation varying considerably across speakers. In this section, I will attempt to identify some general tendencies.

Starke (2001) argues that in languages with case morphology the possibility of extraction correlates with the nature of case assigned to a DP. Specifically, only noun phrases with structural case are transparent for extraction, while inherent case creates a strong island. Consider the Czech paradigm taken from Starke (2001).

- (70)
- a. Ktereho doktora to byla chyba?
which_{Gen} doctor_{Gen} it was fault_{Nom}
 - b. ?Ktereho herce by sis rad koupil obrazek?
which_{Gen} actor_{Gen} would you gladly buy picture_{Acc}
 - c. *Ktereho herce bys sis rad vynadal priteli?
which_{Gen} actor_{Gen} would you gladly scold friend_{Dat}
 - d. *Ktereho herce se bojis pritele?
which_{Gen} actor_{Gen} you fear friend_{Gen}

The observation seems to hold for Serbian as well, that is DPs bearing inherent case are entirely opaque for extraction. The following examples illustrate that removing an NP-complement from dative (71-a), instrumental (71-b), and genitive (71-c) DPs leads to a strong degradation.

- (71)
- a. *[Kojih partija]_{Gen} je on verovao vođama_{Dat}?
which parties aux he trust leaders
'Leaders of which parties did he trust?'
 - b. *[Kojih studenata]_{Gen} se ponosio radovima_{Instr}
which students aux proud.of papers
'Papers by which students was he proud of?'
 - c. *[Kojih ljudi]_{Gen} se plašio optužbi_{Gen}?
which people aux be.afraid accusations
'Accusations by which people was he afraid of?'

However, judgements concerning the grammaticality of extraction from DPs with structural case seem to vary considerably. Zlatić (1994) argues that neither NP nor wh-extraction is possible from NP complements of nouns in Serbian, giving the following examples:

- (72) a. *[Ovog studenta]_{Gen} sam pronašla knjigu_{Acc}?
 this student aux found book
 ‘Of this student, I found a book?’
- b. *Koga_{Gen} si pronašla knjigu_{Acc}?
 who aux found book
 ‘Of whom did you find a book.’

On closer investigation it seems that such a conclusion is too strong. Bošković (2002) finds the extraction of genitive complements only somewhat degraded. Judgements of my informants and myself seem to range from a very slight degradation to almost complete marginality for genitive NP extraction. While the examples in (72) are judged as unacceptable, this is not the case with the examples below.

- (73) a. (?)? [Kojih studenata]_{Gen} podržavaš protest_{Acc}?
 which students support protest
 ‘Which students do you support a protest of?’
- b. (?)? [Čije majke]_{Gen} je on video prijatelja_{Acc}?
 whose mother aux he seen friend
 ‘Whose mother did he see a friend of?’
- c. Čega_{Gen} osećaš nedostatak_{Acc}?
 what feel lack
 ‘What do you feel a lack of?’

The unacceptability of examples in (72) is probably due to an independent factor. Namely, the extracted NP in (72-a) is masculine, and the genitive case of masculine nouns is actually syncretic with the form for accusative. Thus, it seems to create a garden path effect, the speakers interpreting it more naturally as an object NP in accusative case, rather than a genitive NP complement. The same is true of *koga* ‘who’ in (72-b) which again displays syncretism with the accusative form of the interrogative pronoun. When the extracted noun phrases have a form that is unambiguously genitive, as is the case with the moved nominal phrases in (73) the level of degradation is reduced. I thus conclude that the extraction of genitive NPs is possible in Serbian, although somewhat marginal. The exact factors that seem to influence the acceptability of different examples are still unclear to me.

Extraction of prepositional complements is permitted. Consider the following examples:

- (74) a. O kome su oni objavili članak?
 about whom aux they published article
 ‘Who did they publish an article about?’
 b. Na koju zemlju oni planiraju napad?
 on which country they plan attack
 ‘Which country are they planning an attack on?’

However, if the DP contains a prenominal element, the extraction of a PP complement becomes degraded. The same applies to extraction of NP complements.

- (75) a. (i) *O kome su oni objavili ovaj članak?
 about whom aux they published this article
 ‘Who did they publish this article about?’
 b. (i) ?Čega_{Gen} si prodao kolekciju?
 what aux sold collection
 ‘What did you sell a collection of?’
 (ii) *Čega_{Gen} si prodao Jovanovu kolekciju?
 what aux sold Jovan’s collection

I will return to these cases in chapter 5. What is important to note here however is that the extraction of postnominal elements and prenominal elements seems not to be subject to the same conditions. Notice that the removal of prenominal constituents is not dependant on the case assigned to the DP. The examples below illustrate that inherently marked DPs can be split up, although we have seen that they are typically islands for extraction.

- (76) a. (i) *Kakvih*_{Gen} se on *ljudi*_{Gen} plaši?
 what.kind refl he people be.afraid
 ‘What kind of people is he afraid of?’
 (ii) *[*Kojih ljudi*]_{Gen} se plašio optužbi_{Gen}?
 which people aux be.afraid accusations
 ‘Accusations by which people was he afraid of?’
 b. (i) *Kojim*_{Dat} on *političarima*_{Dat} veruje?
 which he politicians trust
 ‘Which politicians does he trust?’
 (ii) *[*Kojih partija*]_{Gen} je on verovao vođama_{Dat}?
 which parties aux he trust leaders
 ‘Leaders of which parties did he trust?’

Moreover, placing the DP in front of the verb does not improve the status of ill-formed examples, although in cases of apparent left branch extractions the preverbal position is clearly preferred.

- (77) a. *[Kojih ljudi]_{Gen} se optužbi_{Gen} plašio?
 which people aux accusations be.afraid
 b. *[Kojih partija]_{Gen} je on vođama_{Dat} verovao?
 which parties aux he leaders trust

The differences in extraction of prenominal and postnominal elements have mostly been disregarded in the previous accounts of NP-subextraction in Slavic, the discussion mainly focusing on the possible causes of parametric variation between Slavic and English-type languages with respect to LBE. The fact that in apparent LBE contexts both parts of the split phrase occupy derived positions, as well as the insensitivity to certain types of islands remain a mystery on direct extraction approaches. I will address these issues in chapter 5. However, before turning to my own account of XP-splits, in the next section I examine some of the previous approaches to the phenomenon under discussion.

4 Previous accounts

In this chapter I review two of the previous analyses of left branch extractions, before turning to my own proposal. I start off with Corver's (1990, 1992) ECP account as an example of a direct extraction approach, which crucially relies on the existence of the functional category of determiners in different languages. Next, I will outline the account of Franks and Progovac (1998) which employs remnant movement to derive split constructions. My own proposal will be essentially an extension and modification of an idea presented there, though the two analyses will differ in some important aspects.

4.1 The ECP account of LBE

Corver's (1990, 1992) account of the asymmetric left branch extraction behaviour in different languages is based crucially on the idea that languages may exhibit variation in the set of functional categories they employ. Specifically, the contrast between English and Dutch on the one hand, and Czech and Polish on the other, with respect to LBE is assumed to reside in the presence of the DP projection. Let me first illustrate how the analysis in question accounts for the nonextractability of prenominal constituents in English-type languages.

Following Abney (1987), Corver postulates the existence of a DP functional layer dominating noun phrases in languages with overt articles. However, unlike Abney who takes NP to be a complement of A, Corver adjoins AP to NP. Thus, the structure he is adopting for English is the following:

$$(78) \quad [_{VP} V [_{DP} Spec [_{D'} D [_{NP} AP [_{NP} N PP]]]]]$$

Assuming that LBE is an instance of phrasal movement, the impossibility of moving a determiner in English stems from the structure preserving condition- determiners such as *which* and *the* being X-zero categories cannot be moved to SpecCP, which allows only maximal projections. On the other hand, fronting a prenominal possessor like *whose* or *John's* is prohibited as it would involve the extraction of a non-constituent, assuming that the following configurations are valid for English:

$$(79) \quad \begin{array}{ll} \text{a.} & [_{DP} John [_{D'} 's [_{NP} car]]] \\ & \text{b.} \quad [_{DP} who [_{D'} se [_{NP} car]]] \end{array}$$

Finally, the extraction of prenominal attributive APs is disallowed as it yields an ECP violation. The proposed analysis builds on Chomsky's (1986) ECP account of the *that*-trace effect. The two constructions clearly resemble each other, as

illustrated in (80). A *that*-trace effect configuration involves the extraction of a left branch subject NP from within an embedded CP. If the COMP-position is lexically filled, the removal of the subject will yield an ungrammatical sentence. In a similar fashion, the extraction of a left branch NP constituent is blocked by the presence of D.

- (80) a. * $[_{DP} AP_i [_{D'} D [_{NP} t_i [_{NP} [_{N'} N]]]]]$
 b. * $[_{CP} who_i [_{C'} that [_{IP} t_i [_{I'} I]]]]$

The impossibility of extracting attributive adjective phrases is then accounted for in terms of the ECP. The ECP requires traces to be properly governed, which implies either lexical government or antecedent government.¹⁹ Since adjectival phrases are adjuncts and thus never lexically governed, the proper government of adjectival traces will crucially depend on the availability of a local antecedent. The government relation can be blocked by two types of barriers: (i) Barriers created by the absence of L-marking (L-barriers), or (ii) Barriers created by the presence of a closer governor (M(inimality)-barriers). M-barriers are defined as follows:

- (81) A is a M-barrier for B if A includes B, D (an X^0_i -commander of B), and G (a maximal projection not necessarily distinct from A), where D i(mmediate)-commands B if the first constituent containing D contains A.

Given these assumptions, AP cannot antecedent govern its trace in (80-a) because a minimality barrier D' intervenes. This category contains a trace, a maximal projection containing the trace, that is NP, and a head i-commanding the trace, D⁰. Thus moving an adjective phrase out of an NP will always result in an ECP violation. Notice however, that there is an important difference between an adjectival LBE and a *that*-trace effect configuration. The examples below illustrate that adjectival LBE is prohibited even when the article is not overt. On the other hand, the omission of *that* renders the sentence grammatical.

- (82) a. *Talkative_i he hates $[_{DP} t_i D [_{NP} t_i [_{NP} guests]]]$
 b. *Talkative_i he hates $[_{DP} t_i the [_{NP} t_i [_{NP} guests]]]$
 c. Who_i do you think $[_{CP} t_i C [_{IP} t_i saw Bill]]?$
 d. *Who_i do you think $[_{CP} t_i that [_{IP} t_i saw Bill]]?$

Therefore, in order to capture the fact that both (82-a) and (82-b) are ill-formed, Corver needs to assume that both overt and null D project a minimality barrier.

¹⁹The relation of government is defined as follows:

A governs B iff A m-commands B and there is no G, G a barrier for B, such that G excludes A

The same conclusion however cannot be applied to a *that*-trace configuration, where only the presence of an overt complementizer for some reason blocks the antecedent government.²⁰

Turning now to the question of why left branch extractions are allowed in Slavic, Corver's analysis relies on the assumption that languages such as Polish and Czech do not project a DP at all. In the absence of a DP layer, it becomes possible to remove the internal NP constituents without violating the ECP or the Subjacency Condition. According to Corver, the claim that nominals in Slavic are bare NPs is supported by the fact that these languages do not have articles corresponding to *the* and *a* in English. The potential candidates for the functional category D, that is demonstratives and possessives, are all treated as adjectival modifiers. In chapter 2, I have already explored the arguments apparently supporting the adjectival status of prenominal elements in Slavic. These involved the ability of possessives and demonstratives to take adjectival declension endings, their occurrence in syntactic environments where adjectives typically appear, and the apparent permutability of these constituents. Let us see now how the lack of DP projection accounts for the contrast between English-type and Slavic-type languages. Consider again an example of LBE.

- (83) Brbljive_i on [_{VP} t_i [_{VP} [_{V'} mrzi [_{NP} [_{AP} t_i] [_{NP} [_{N'} goste]]]]]]
 talkative he hates guests
 'Talkative he hates guests.'

Given the absence of D, the extraction of a left branch constituent from within a direct object noun phrase in (83) can be carried out without violating the ECP. The direct object is L-marked by the verb, and thus does not constitute a barrier. The adjectival element can be moved to the SpecCP via intermediate adjunction to VP without crossing any intervening L-barriers. Minimality is not violated either, under the definition given above, since the NP does not contain a head i-commanding the trace. Crucially, in contrast to English, Slavic does not have a D that would project a minimality barrier and consequently block extraction. The question that needs to be addressed is why V' is not a minimality barrier for the NP-adjoined trace. Corver assumes that the adjunction to XP voids the minimality barrierhood of X. This now seems to raise problems with respect to English cases, as we would expect the minimality effect of D to be circumvented via adjunction to DP. The relevant example is repeated below.

²⁰The problem could possibly be resolved by assuming that in cases where the complementizer is null, the CP is not projected at all. See Bošković (1997) among others for arguments that the embedded clause in (82-c) is an IP. See also Pesetsky and Torrego (2001) for arguments against the relevance of 'emptiness' and an alternative explanation of *that*-trace effect that does not rely on the presence vs. absence of pronounced material in C.

- (84) *Talkative_i he hates [_{DP} t_i D [_{NP} t_i [_{NP} guests]]]

Therefore, in order to rule out this possibility in English, Corver adopts Chomsky's (1986) ban on adjunction to arguments. The category DP cannot function as a host for adjunction due to its argument status. Reanalysing now the example (83), it seems that the ban on adjunction to arguments is violated in Slavic, since the adjectival phrase is adjoined to NP, an argument type category. Bošković (2002) argues that the problem can be overcome if the ban is applied derivationally. He assumes that the object NP in (83) becomes an argument only when it is merged with the verb, but the adjunction of the adjectival phrase to the NP has crucially taken place before this merger operation. On the other hand, adjunction to the direct object DP in English takes place after the DP has been incorporated into the clause structure, assuming that the AP does not undergo movement until the final target of the movement enters the structure.

Consider next how the prohibition on subextraction from NP-complements of nouns is derived. The relevant examples are repeated below.

- (85) a. *Kojeg_i je on pozajmio [knjigu [t_i studenta]]?
 which aux he borrowed book student
 ‘Of which did he borrow a book student.’
 b. *Čije_i je on izgubio [adresu [t_i sestre]]?
 whose aux he lost address sister
 ‘Of whose did he lose address sister?’

Corver argues that the ungrammaticality of these examples is due to the violation of the ECP. The movement of the left branch adjectival phrases out of the NP-complement crosses a minimality barrier. The higher N' is an M-barrier for the trace contained within the lower NP, as it contains the trace, a head i-commanding the trace (nominal head of the higher NP), and the maximal projection including the trace (i.e. the lower NP). The minimality effect cannot be circumvented via adjunction, as this would involve adjunction to an argument, and is prohibited as such. In contrast to the ungrammaticality of subextraction from the NP-complements, the movement of the whole NP from the dominating noun phrase is licit.

- (86) a. (?)? [Kojih studenata]_{Gen} podržavaš protest_{Acc}?
 which students support protest
 ‘Which students do you support a protest of?’

- b. (??) [Čije majke]_{Gen} je on video prijatelja_{Acc}?
 whose mother aux he seen friend
 ‘Whose mother did he see a friend of?’
- c. Čega_{Gen} osećaš nedostatak_{Acc}?
 what feel lack
 ‘What do you feel a lack of?’

Since the dominating NP projects a minimality barrier, the direct removal of the genitive NP is disallowed. Instead, Corver argues that the ECP-violation is avoided by moving the genitive phrase through the SpecNP position. This however raises the question of why this escape hatch is not available otherwise. A more plausible alternative is rather that the trace of the NP-complement is lexically governed by the head noun, and as a result the ECP is respected.

On Corver’s analysis we are led to expect that noun phrases which are not lexically governed should be opaque for extraction. The prediction is however not borne out. The following examples show that extraction out of a subject is allowed although subject NPs are not lexically governed and thus should constitute a barrier for extraction.

- (87) a. Markov ga je sin udario.
 Marko’s him aux son punched
 ‘It was Marko’s son that punched him.’
- b. Koji misliš da će kandidat pobediti?
 which think that will candidate win
 ‘Which candidate do you think will win.’

It is not clear to me how the grammaticality of these sentences can be accounted for on Corver’s assumptions. Further problems are posed by the cases of PP-splits. Removal of left branch modifiers from within NP-complements of prepositions, as in (88), yields a minimality violation, because PP is an intervening M-barrier.

- (88) *Velikoj je Jovan trčao prema kući.
 big aux Jovan ran towards house

However, it is possible to front the left branch modifier together with the preposition, as we have seen in the previous chapter.

- (89) a. [Prema velikoj]_i je Jovan [t_i kući] trčao.
 towards big aux Jovan house ran

- b. [Sa kojim]_i je Nataša [t_i profesorom] razgovarala?
 with which aux Nataša professor talked

Corver employs a rather complicated mechanism to account for the grammaticality of these sentences. He assumes that the derivation of (89-a) and (89-b) involves cliticization of the preposition onto a right adjacent host in syntax. Thus, prior to the fronting of the left branch constituent, the preposition is left-adjoined to it. Corver further assumes that since the prepositional head is no longer lexically filled, the PP dominating this preposition does not constitute a minimality barrier, allowing thus the modifier with the cliticized preposition to move out of the PP without violating the ECP. This assumption raises the question of why the same is not true of DPs. As we have seen, the extraction of adjectival phrases is impossible in English even when D is lexically empty. Bulgarian and Macedonian examples seem to be even more problematic if we allow for such an assumption. In these languages, articles always cliticize to the first lexical head in the string. This would mean that D is always headed by a trace, and thus should not constitute a barrier. Nevertheless, the extraction of a left branch constituent is apparently disallowed. The contrast is illustrated below.

(90) *Bulgarian*

- a. Petko prodade novata kola.
 Petko sold new-the car
 'Petko sold the new car.'
- b. *Novata prodade Petko kola.
 new-the sold Petko car

Therefore, allowing for an XP to lose its barrierhood status if governed by a trace would seriously undermine the analysis in which the contrast between the two types of Slavic languages with respect to LBE was nicely correlated with the presence vs absence of articles.

Another problem is posed by the trace of the moved prepositional clitic which is not governed and thus should violate the ECP. Corver proposes that in this case the preposition does not leave a trace, and consequently the movement to a non-c-commanding position is unproblematic. The most serious problem for the proposed analysis is raised by the cases where the preposition is modified, as in the following example.

- (91) Pravo u veliku je on ušao sobu.
 straight into big aux he entered room

If the extraction of prenominal modifiers involves the head adjunction of the

preposition to the right hand host, we would not expect the modifier of the P to be carried along. Clearly, the Corver-style solution cannot capture the grammaticality of (91). Moreover it wrongly predicts that the example (92) is well-formed. We would expect that after the cliticization, the preposition can extract together with the adjectival phrase, stranding the modifier. Notice that the ECP is not violated, since according to Corver the lexically empty P does not constitute a barrier.

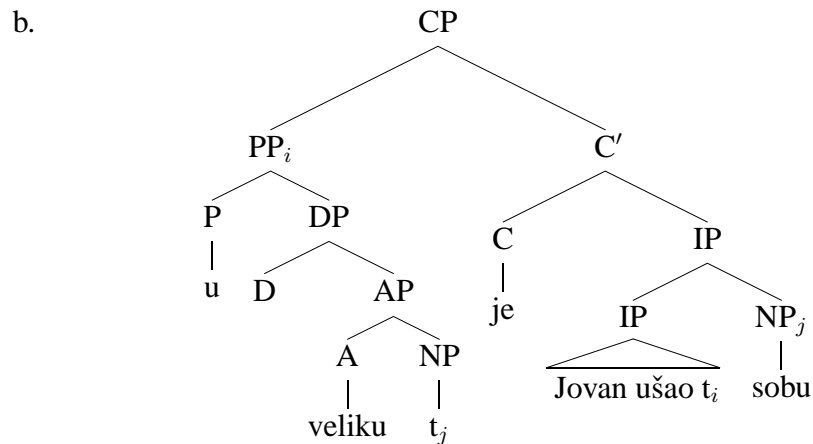
- (92) *U veliku je on ušao pravo sobu
in big aux he entered right room

As we have seen, PP-splits cannot be satisfactorily accounted for under Corver's approach. The analysis requires a number of additional and problematic stipulations. It assumes that lowering operations are allowed, and finally it does not explain all the data observed. In light of these facts, an obvious question that arises is whether these constructions can receive a more elegant explanation, and whether such an account could be extended to DP-splits as well. In the next section, I turn to a proposal that straightforwardly captures the problematic cases of PP-splits.

4.2 PP-remnant fronting

In their account of the placement of Serbo-Croatian clitics, Franks and Progovac (1994) pursue a remnant movement analysis of split prepositional phrases. Under this approach, the derivation of (93-a) proceeds as illustrated in (93-b).

- (93) a. U veliku je Jovan ušao sobu.
into big aux Jovan walked room
'Jovan walked into a big room.'



On this account, first the NP *sobu* moves out of the PP and right-adjoins to the IP. After that the remnant PP fronts to the SpecCP. Notice that they adopt Abney-style structure of DPs, where an NP is a complement to A. They further argue that the first movement step can affect only NPs, but not APs. Consider the contrast below.

- (94) a. ??U ovu sam se zaljubio lepu studentkinju.
 in this aux refl fell.in.love pretty student
 ‘I fell in love with this pretty student.’
 b. U ovu sam se zaljubio studentkinju fizike.
 in this aux refl fell.in.love student physics
 ‘I fell in love with this student of physics.’

In (94-b), the first movement step affects the NP *studentkinju fizike*. In contrast to (94-b) the example (94-a) is degraded because here the AP *lepu studentkinju* undergoes movement, which is according to Franks and Progovac disallowed. I will refer to this assumption as *the ban on AP scrambling*.

Franks and Progovac further observe that the following word order configuration is ungrammatical in Serbo-Croatian.

- (95) *Sobu je Jovan ušao u veliku.
 room aux Jovan walked into big
 ‘Jovan walked into a big room.’

It is impossible to front the NP while leaving the remnant PP behind. Franks and Progovac argue that the ill-formedness of this example is due to the violation of the *Scope Preservation Principle*.

- (96) *Scope Preservation Principle*
 Surface word order respects relative scope as much as possible.

The example (95) is ruled out by the Scope Preservation Principle, because the scrambled NP precedes the adjective which modifies it, disrupting thus scopal relations. Franks and Progovac give also the following examples in support of their Scope Preservation Principle.

- (97) a. *Zanimljivu Jovan čita ovu knjigu.
 interesting Jovan read this book
 b. *Knjigu čita Jovan ovu zanimljivu.
 book read Jovan this interesting

- c. Ovu Jovan čita zanimljivu knjigu.
this Jovan read interesting book
'Jovan is reading this interesting book.'

If more than one modifying adjective is present, the second one cannot be extracted over the first one.²¹ However, notice that these examples are now problematic for their ban on AP scrambling. Franks and Progovac discuss only the derivation of PP-splits. They do not extend the analysis to cases of discontinuous DPs. However, it is clear that if we were to do so, the grammatical (97-c) would involve scrambling of the AP *zanimljivu knjigu* in violation of the ban on AP scrambling. In the next chapter, I give additional evidence against the ban on AP scrambling, and conclude that it must be abandoned. I will also argue that the remnant movement analysis should be extended to DPs. Although I will crucially make use of remnant movement in deriving XP-splits, my account will differ in some important aspects from the proposal of Franks and Progovac.

²¹Obviously they assume that the demonstrative *ovu* is categorially an adjective.

5 The Analysis of Split Constructions

In this chapter, I will offer an account of split constructions in Serbian. I will argue that these structures are not derived by extraction of a left branch constituent as typically assumed. I will propose that they are best analyzed as involving two instances of movement. First, a part of the relevant phrase scrambles out of the VP. Subsequently, the remnant XP fronts to clause initial position. Building on the proposal by Franks and Progovac (1994), I will argue that the remnant movement analysis captures the properties of PP-splits in the most natural and elegant way, and as such should be preferred over other solutions proposed in the literature. I will then extend the analysis to DP-splits, as well as discuss the nature of the two movement steps. As the account will crucially make use of remnant movement, I will start off by briefly reviewing some facts from German which strongly suggest that movement of a constituent containing a trace should be allowed as a theoretical possibility.

5.1 Remnant Movement

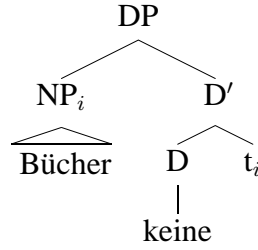
Den Besten and Webelhuth (1990) observed that German exhibits a number of constructions involving discontinuous constituents. Consider the examples of VP-topicalization (98-a), and NP-extraction (98-b), as illustrated below.

- (98) a. Gelesen hat Hans das Buch.
 read has Hans the book
 ‘Hans has read the book.’
- b. Bücher hat Hans keine gelesen.
 books has Hans none read
 ‘Hans has read no books.’

Although superficially it seems that an X^0 category has been fronted, den Besten and Webelhuth argue that these sentences in fact involve movement of a maximal projection. Assuming that only phrasal projections can occupy the highest specifier position in German clauses, in (98-b) the scrambled phrase *Bücher* must be treated as a maximal projection, namely an NP. The extraction is carried out through a SpecDP position.²²

²²I return to the examples of split DPs in German in the next chapter, where I analyse them also in terms of remnant movement.

(99)



On the other hand, the derivation of (98-a) is actually the result of two movement operations. First the direct object scrambles into the middle field, which is then followed by fronting of the remnant VP. The derivation proceeds in the manner illustrated below.

(100) Gelesen hat Hans das Buch.

- a. [CP hat_i [IP Hans [VP das Buch gelesen] t_i]]
- b. [CP hat_i [IP Hans [VP das Buch_j [VP t_j gelesen]] t_i]]
- c. [CP [VP t_j gelesen]_k hat_i [IP Hans [VP das Buch_j t_k] t_i]]

Thus, the remnant movement configuration has the following general format:

(101) [Y_P ... Y ... t_i ...]_j X_i t_j

First a constituent X scrambles out from within the YP. Subsequently, the entire YP including the trace of X is fronted across X. The following definition of remnant movement is taken from Alexiadou et al. (2002).

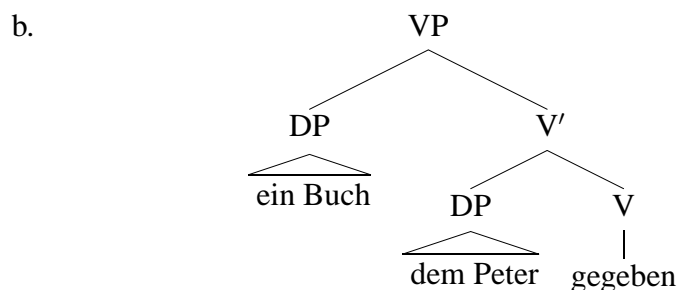
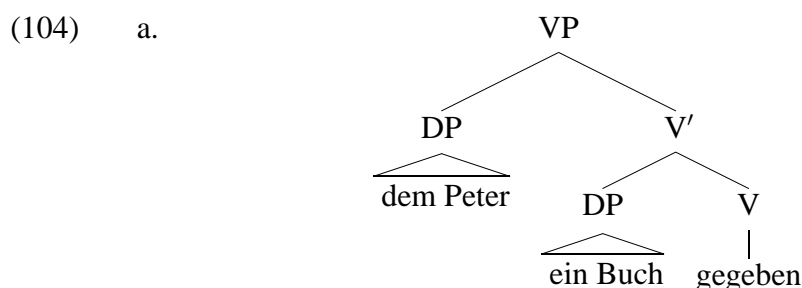
(102) A constituent α is a remnant iff there are constituents β and γ , β a trace and γ the antecedent of β , and such that α includes β , and α excludes γ .

The remnant movement analysis of examples in (98), as well as the very existence of this type of movement is often been questioned. Alternative accounts of (98-a) were proposed which do not assume movement of a constituent containing a trace, but argue that a complete verbal category has been topicalized. There are two kinds of analysis that follow this line of thought. On one account, it is argued that verbal projections other than VP, such as V' and V⁰, can undergo topicalization in German. This view is problematic with respect to the standard restriction on Move α , which allows only heads and phrases, but not intermediate projections to undergo movement. Furthermore, if we assume that (98-a) is derived by head movement, the issue arises with respect to the landing site of topicalization, which is a non-head position, and thus can only be filled by phrasal constituents.

An alternative view has been advocated by Fanselow (1992). He assumes that arguments of the verb are generated in VP-adjoined positions. As a result, topicalization can target either the smallest VP, giving the impression that only V^0 has moved, or it can affect the dominating VP, containing the object. By allowing only maximal projections to undergo movement, this approach avoids the problems of the previous account. On the other hand, it requires a special stipulation that arguments of the verb are never projected VP internally, in contrast to what is standardly assumed. Finally, Müller (1998) points out that both approaches have difficulty accounting for (103) in a straightforward way.

- (103) a. [Ein Buch_{Acc} gegeben] hat die Claudia_{Nom} dem Peter_{Dat}.
 a book given has the Claudia the Peter
 b. [Dem Peter_{Dat} gegeben] hat die Claudia_{Nom} ein Buch_{Acc}.
 the Peter given has the Claudia a book

Here, either the direct object or the indirect object undergoes topicalization together with the verb. Thus, if we wish to do away with remnant movement, we need to relax laws governing projection of arguments in German. This implies that the direct object can either be directly merged with the verb, or else it can be based generated above the attachment site of indirect object. Then both (104-a) and (104-b) must be allowed.



It can be concluded that if we wish to retain the rigid ordering of arguments, then the analysis in terms of remnant movement is unavoidable. In light of these facts, Müller argues that the remnant movement approach is to be preferred, and highlights some of its welcome consequences. One of its advantages lies in the possibility of capturing the source of cross-linguistic variation. It is a well-known fact that English allows VP-topicalization, but does not exhibit movement of what Müller calls *incomplete categories*. Compare the well-formed (105-a), with the ungrammatical (105-b), and (105-c).

- (105) a. Kicked the dog he never has.
 b. *Kicked he the dog never has.
 c. *Kicked he never has the dog.

Den Besten and Webelhuth (1990) argue that the source of language variation lies in the fact that English, unlike German, does not have the rule of scrambling. Under the remnant movement approach, VP-topicalization is necessarily preceded by scrambling of the object DP out of the VP. It is therefore predicted that if a certain language does not have scrambling, it will also not exhibit topicalization of the German type. The prediction seems to be borne out, as Danish for instance lacks both scrambling and incomplete category fronting, whereas Dutch allows both. On the other hand, it is far from obvious why (105-b) and (105-c) should be ungrammatical on alternative approaches, or what the source of the contrast between English and German is.

Considering the evidence presented in this section, I conclude that something like remnant movement is needed if we wish to retain the well-established restrictions on movement and projections. However, although it seems to me that the remnant movement analysis is justified for constructions such as VP-topicalization in German, or as I will argue, split XPs in Serbian, I do not commit myself to adopting the remnant movement approach more generally. Following Kayne's (1994) antisymmetry framework, various types of apparent rightward movement and right-adjunction have been analyzed in terms of remnant movement. Moreover, if complements are necessarily merged to the right, then head-final structures are derived by movement. In particular, OV order (i.e. the ordering of VP-internal material to the left of V) is derived by scrambling all the VP internal material to distinct specifier positions. Kayne (1998) assumes that movement of VP-internal constituents to the left also occurs in English in some cases. However, in English this is followed by VP-remnant fronting past that material, thus re-establishing the original order (cf. also Taraldsen 2000). Such systems make extensive use of movement. Kayne also argues that deriving English word order in this way allows us to dispense with covert movement. Koopman and Szabolcsi (2000) take it even further by eliminating head movement from the grammar al-

together and deriving all orders by overt remnant XP movement. Whether this is the right way to analyse different word order patterns across languages is beyond the scope of this paper. However, I would like to point out that nothing hinges on this issue. My goal will be to apply the remnant movement approach to particular types of XP-splits in Serbian, and explore its consequences. I will argue that it provides us with the most elegant way to capture this type of incomplete category fronting. Clearly, the underlying assumption is that remnant movement exists. However, whether other word order variations involve instances of remnant movement will not be one of my concerns.

5.2 The Analysis

The facts presented in the previous section strongly suggest that remnant movement is needed to account for incomplete category fronting in German. An obvious question arises whether remnant movement is responsible for discontinuous constituency in other languages as well. In what follows, I will argue that this is precisely the case, and that incomplete category fronting observed in Serbian should receive an analysis in the manner similar to the German cases discussed, that is as involving remnant movement. I start off with split prepositional phrases, the most natural analysis of which seems to be in terms of remnant movement, and then extend the analysis to DP-splits.

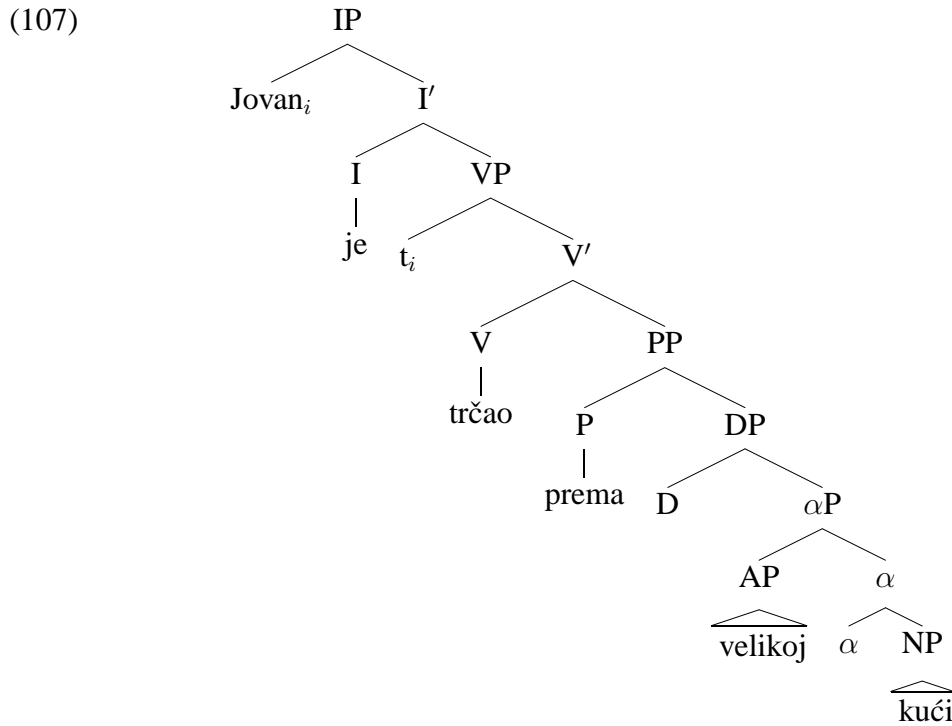
5.2.1 Deriving XP-splits

Consider again the examples from chapter 3, that illustrate the possibility of splitting prepositional phrases in Serbian.

- (106) a. (i) Jovan je trčao prema velikoj kući.
Jovan aux ran towards big house
'Jovan ran towards a big house.'
(ii) *Prema velikoj* je Jovan *kući* trčao.
towards big aux Jovan house ran
b. (i) Nataša je razgovarala sa ovim profesorom.
Nataša aux talked to this professor
'Nataša talked to this professor.'
(ii) *Sa kojim* je Nataša *profesorom* razgovarala?
to which aux Nataša professor talked
'Which professor did Nataša talk to?'

At first glance, it seems that in (106-a-ii) and (106-b-ii) a non-constituent has been moved. No approach to the internal structure of PPs proposed so far treats the

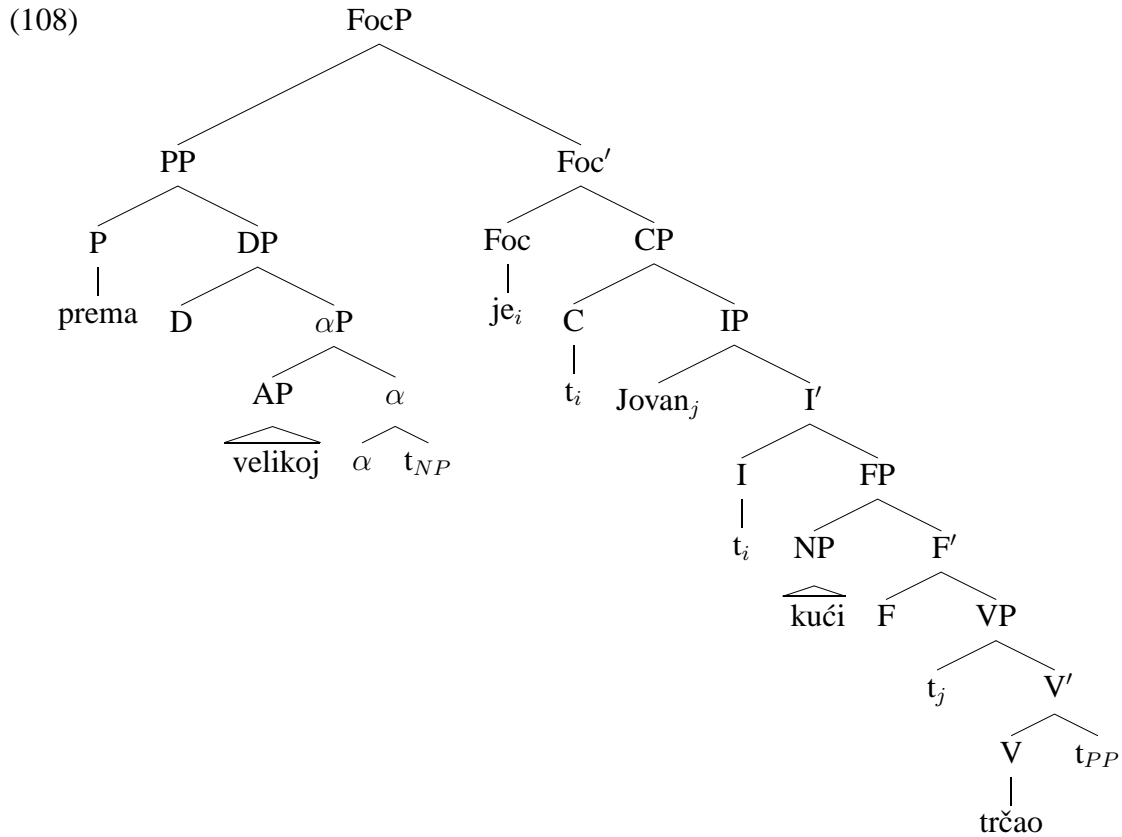
preposition and the following nominal modifier as a constituent, while excluding the noun. Adopting a well-motivated standard assumption that only constituents can undergo movement, we are forced to conclude that it is a constituent that is preposed, although superficially this appears not to be the case. With this in mind, a straightforward way of analysing (106-a-ii) and (106-b-ii) is in terms of remnant PP-fronting. Let me illustrate how the derivation preceeds. Based on my assumptions so far, the example (106-a-i) has the following structure.



The sentence (106-a-ii) is derived in the way illustrated in (108).²³ The derivation involves two instances of movement. First the NP contained within the prepositional phrase is moved to the middle field. Subsequently, the remnant PP, including the prenominal adjective is fronted to the specifier of the Focus projection.²⁴

²³For the sake of simplicity, I generate the verbal auxiliary clitic *je* directly in IP, instead of in its own verbal projection. Furthermore, for movements I am focusing on, I indicate the trace of a DP, NP, VP, and PP as t_{DP} , t_{NP} , t_{VP} , t_{PP} . Otherwise I use indices.

²⁴I assume that the second step involves focus movement. I return to the arguments supporting this conclusion in the next section.



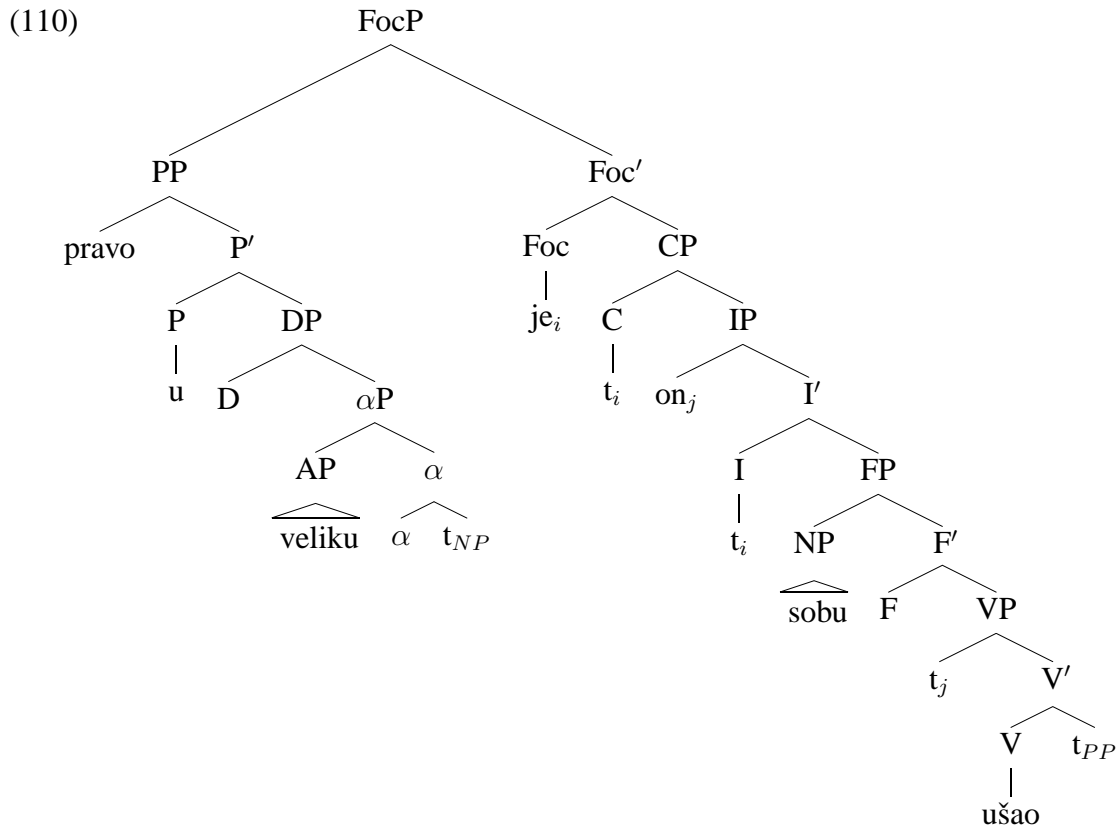
A welcome consequence of this analysis is that it straightforwardly explains why it appears that a non-constituent undergoes movement. Alternative approaches are forced into a number of unsatisfactory stipulations in order to sidestep this problem. Recall that Corver (1990) claims that these cases involve cliticization of the preposition to a right hand host which raises certain question regarding the behaviour of traces. In particular, he assumes that the moved preposition does not leave a trace, and therefore no violation of the ECP is induced. Another conceptually problematic aspect of this approach is that it makes use of overt lowering movement, which is standardly disallowed. However, Bošković (2002) suggests that there is a way to avoid this problem. Instead of lowering the preposition to the adjective, he argues that first the AP moves to a position c-commanding the preposition, and then the preposition adjoins to the adjective. Clearly, the two movements proposed are contingent on each other, as the adjective can never move without affecting the preposition. However, it is far from obvious what triggers these movements, as well as why they are forced only in the context of left branch extractions.

A serious empirical problem for all approaches assuming some form of adjunction or cliticization of the preposition to the adjective concerns the construc-

tions where the preposition is modified. As we have seen, in such cases, the modifier of the preposition is necessarily carried along when the PP is split.

- (109)
- a. On je ušao pravo u veliku sobu.
he aux entered straight into big room
'He went straight into the big room.'
 - b. *Pravo u veliku* je on *sobu* ušao.
straight into big aux he entered room
 - c. **U veliku* je on ušao *pravo sobu*.
into big aux he entered straight room

The grammatical example (109-b) is impossible to derive on direct extraction approaches, which assume that after the adjunction, the preposition and adjective form a constituent to the exclusion of the modifier of P. What is more, it is predicted that (109-c) should be grammatical, since nothing prevents the adjective, with the preposition adjoined, from extracting, leaving behind a P-modifier. On the other hand, (109-b) and (109-c) are straightforwardly accounted for under the remnant movement approach. The well-formed example (109-b) is derived in the following way:



In contrast to the well-formed (109-b), (109-c) is directly ruled out on the remnant movement analysis since splitting the preposition from its modifier would require a non-constituent to be moved, which is as such disallowed. As we can see, no specific stipulations need to be made in order to accommodate these cases. I therefore conclude that the remnant movement analysis is supported by the data, and should be favoured over the alternative approaches.

Consider next the following ill-formed examples repeated from chapter 3:

- (111) a. **Velikoj kući je Jovan trčao prema.*
big house aux Jovan ran towards
b. **Prema je Jovan trčao velikoj kući.*
towards aux Jovan ran big house

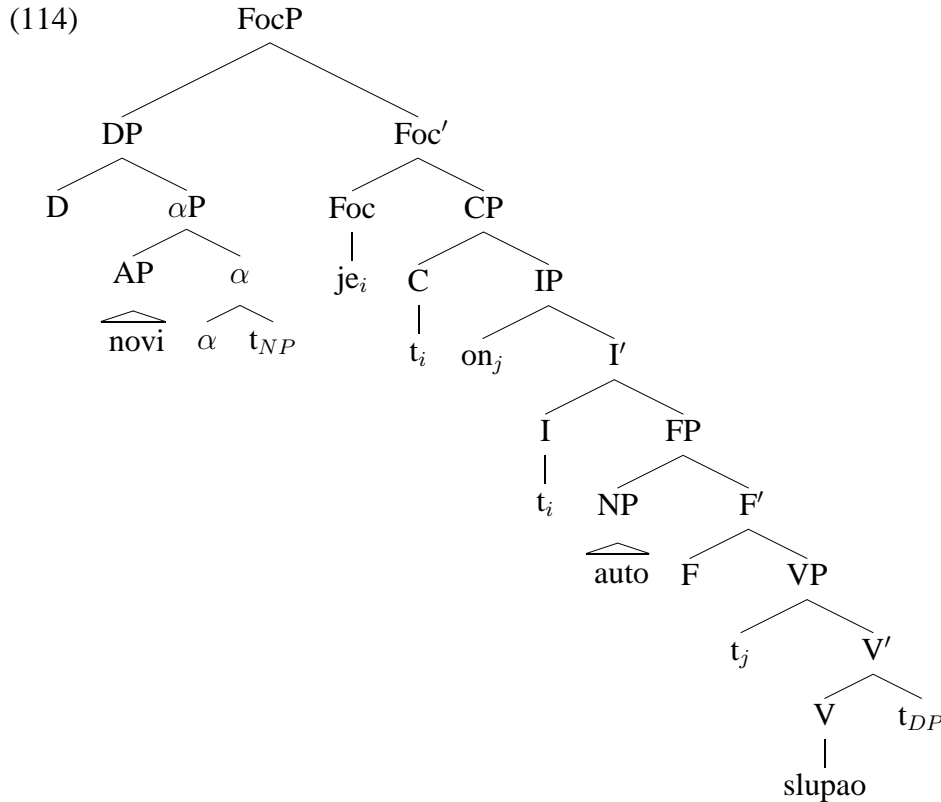
I will assume that the ungrammaticality in these cases is due to the ban on preposition stranding. Although complements of the preposition are in principle movable categories, a preposition cannot have a trace and nothing else in its complement position. We could schematize this as follows (adopted from Abels 2003):

- (112) *[X...[P⁰ t_X]...]

Having established that the most natural and straightforward way to account for PP-splits in Serbian is in terms of remnant movement, an obvious question that arises is whether DP-splits are amenable to the same kind of analysis. Consider again several cases of split DPs.

- (113) a. *Koliko su oni radnika otpustili?*
how.many aux they workers fired
'How many workers did they fire?'
b. *Koju su oni fabriku zatvorili?*
which aux they factory closed
'Which factory did they close?'
c. *Čiju su oni knjigu objavili?*
whose aux they book published
'Whose book did they publish?'
d. *Novi je on auto slupao.*
new aux he car crashed
'He crashed the new car.'

Applying essentially the same analysis as for the prepositional phrases, I will assume that the examples in (113) are derived by first moving out the noun phrase to the position preceding the verb, followed by fronting of the remnant DP to the left periphery. The derivation of the split-DPs above proceeds in the manner illustrated below for the example (113-d).



An obvious advantage of this approach is that PP- and DP-splits receive a unified account. In other words, there is nothing special about PP-splits that would call for additional assumptions, as in the alternative analyses. A unified approach is supported by the fact that split PPs and DPs share a number of properties. I address some of these below.

On remnant movement approach, the first movement step targets the position to the left of the verb. Notice that in this I depart from the assumptions of Franks and Progovac (1994), according to whom the scrambled constituent moves to the right and adjoins to the IP. Strong evidence against the rightward movement analysis is provided by the examples involving adjuncts. Consider the following sentences:

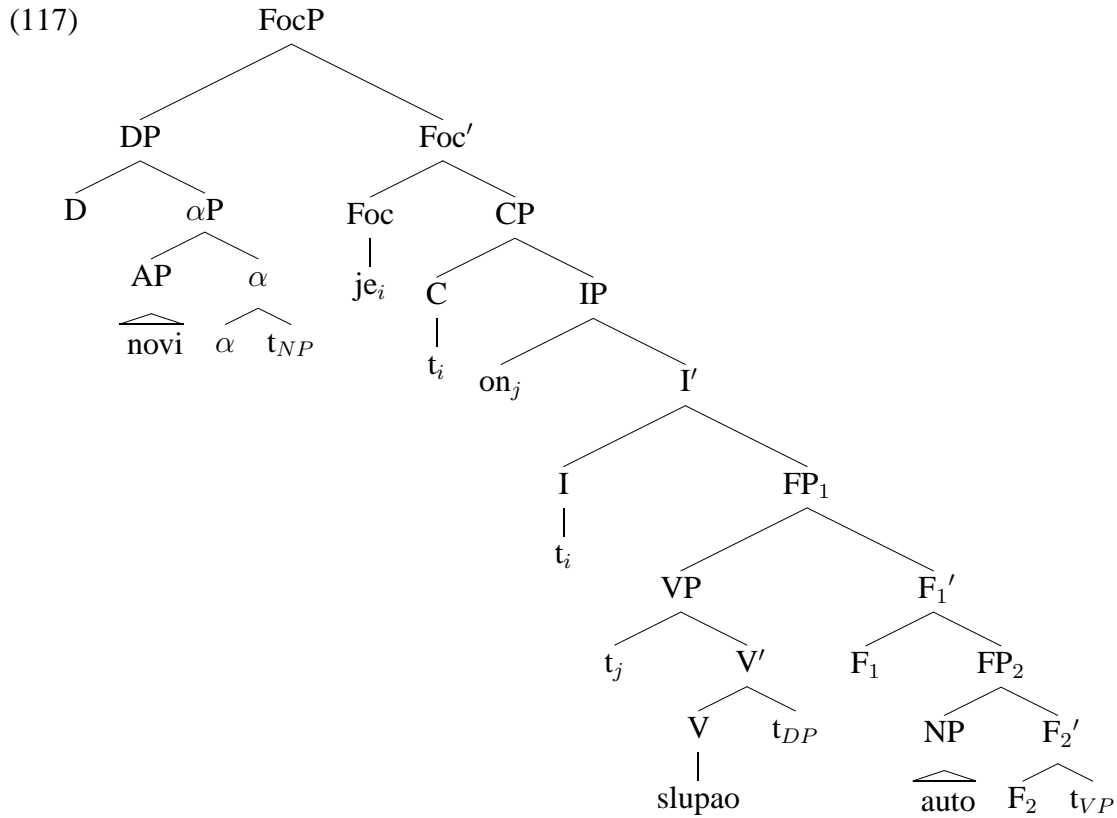
- (115) a. ?**Crveni* je on kupio pre tri dana *auto*.
red aux he bought before three days car
'He bought a red car three days ago.' (from Bošković 2002)
- b. **Čiju* su oni objavili prošle godine *knjigu*?
whose aux they published last year book
'Whose book did they publish last year?'

If we were to assume that the derivation of split DPs involves rightward movement, we would expect the scrambled NPs, *car* and *book* always to follow adjuncts. This is clearly not the case, as shown by the ungrammatical (115-a) and (115-b). Furthermore, I have already pointed out that the cases of apparent left branch extractions actually sound the best when the scrambled phrase precedes the verb. In contrast to (116-b), (116-a) is slightly degraded.

- (116) a. ?*Novi* je on slupao *auto*.
new aux he crashed car
- b. *Novi* je on *auto* slupao.
new aux he car crashed

The improved status of (116-b) is obviously predicted under the analysis proposed here, since the scrambled XP moves to the left and lands in the position preceding the verb. Still, we need to account for the fact that (116-a) is a possible configuration as well. I will assume that after the NP *auto* 'car' has moved to the left, the remnant VP fronts over the landing site of NP. Consequently, the NP ends up in the sentence final position in spite of undergoing leftward movement. I conclude that the marked status of (116-a) is due to an additional step that places the VP in front of the noun phrase.²⁵ The derivation is illustrated below.

²⁵However, I am unable at present to say what motivates this movement.



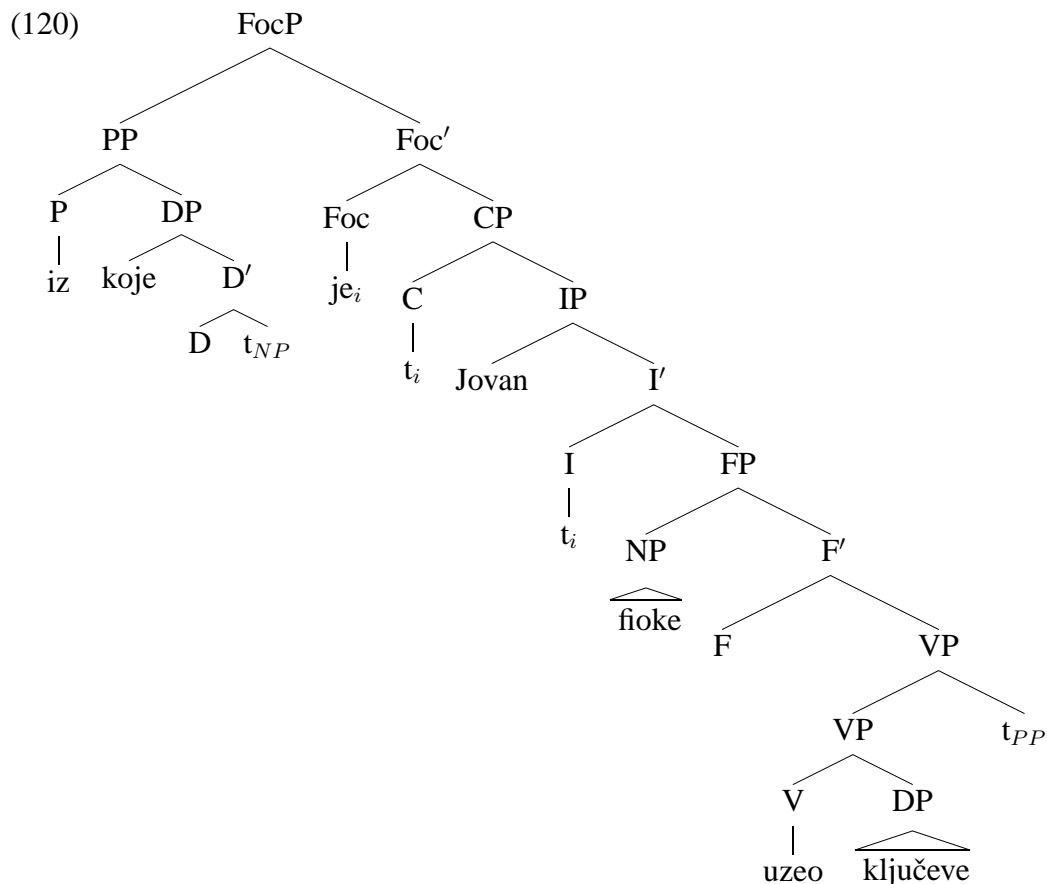
The same contrasts are observed with PP-splits. The sentences where the scrambled NP follows the verb are somewhat degraded. It seems thus that the option of fronting the remnant VP is not readily available. The examples clearly improve if the NP precedes the verb.

- (118) a. (i) ??*Sa kojim je Nataša razgovarala profesorom?*
 to which aux Nataša talked professor
 ‘Which professor did Nataša talk to?’
 (ii) *Sa kojim je Nataša profesorom razgovarala?*
 to which aux Nataša professor talked
 b. (i) ??*Prema kojoj je Jovan trčao kući?*
 towards which aux Jovan ran house
 ‘Towards which house did Jovan run?’
 (ii) *Prema kojoj je Jovan kući trčao?*
 towards which aux Jovan house ran

Consider next the word order patterns in (119). Here, in addition to a PP, the verb phrase contains a DP complement. As a result, the only grammatical structure is the one where the NP-complement of the PP, precedes the verb.

- (119) a. (i) *Iz koje je Jovan fioke uzeo ključeve?*
from which aux Jovan drawer took keys
'From which drawer did Jovan take the keys?'
(ii) **Iz koje je Jovan uzeo ključeve fioke?*
from which aux Jovan took keys drawer.
(iii) **Iz koje je Jovan uzeo fioke ključeve?*
from which aux Jovan took drawer keys
- b. (i) *Na čiju je Marija adresu poslala paket?*
to whose aux Marija address sent package
'To whose address did Marija send the package?'
(ii) **Na čiju je Marija poslala adresu paket?*
to whose aux Marija sent address package
(iii) **Na čiju je Marija poslala paket adresu?*
to whose aux Marija sent package address

The examples above show that both parts of the split DP must appear in derived positions. I take this to strongly support the remnant movement analysis. Assuming that the NP contained within the PP always moves out of the VP, (119-a-i) is precisely what we expect. Let me sketch how the grammatical example (119-a-i) is generated.



Turning to DP-splits, we again observe the same behaviour, that is both parts of the DP must occupy derived positions, and both positions are outside the VP. Consider the following examples of double object constructions:

- (121)
- a. *Kojem su oni kandidatu ponudili posao?*
 which aux they candidate offered job
 ‘Which candidate did they offer a job?’
 - b. **Kojem su oni ponudili kandidatu posao?*
 which aux they offered candidate job
 - c. **Kojem su oni ponudili posao kandidatu?*
 which aux they offered job candidate

As we see, both parts of the split must necessarily vacate the VP. It is far from obvious how the ungrammaticality of the relevant examples is derived in the direct extraction approaches, where the left branch constituent separates from the rest of the phrase in its base position. Furthermore, I conclude that the specific proposal of Franks and Progovac involving rightward movement must be abandoned in

light of these facts.

I turn next to the cases of subextraction from NP-complements repeated below.

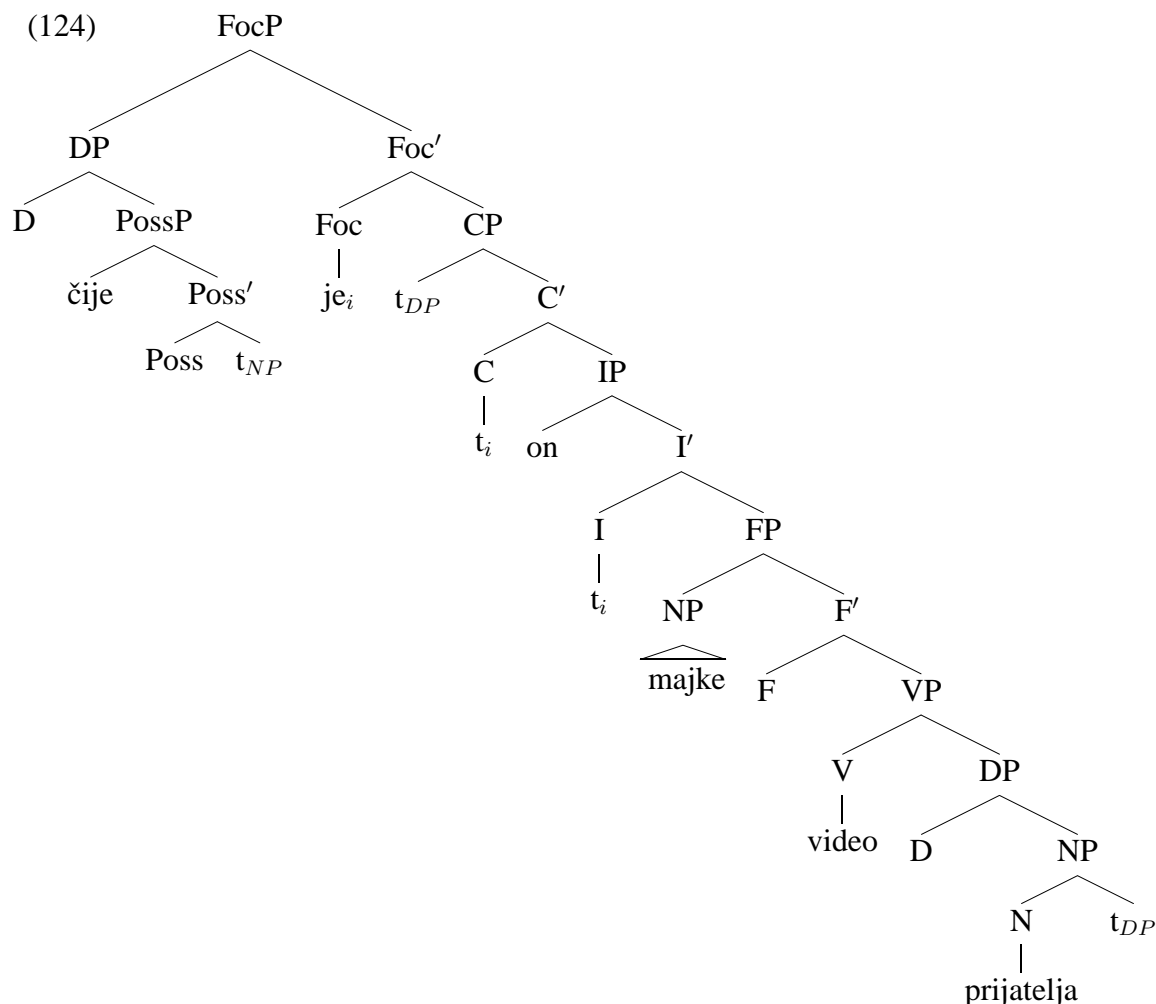
- (122) a. (i) On je pozajmio knjigu ovog studenta.
he aux borrowed book this student
'He borrowed a book of this student.'
- (ii) **Kojeg* je on pozajmio [knjigu *studenta*]?
which aux he borrowed book student
'Of which did he borrow a book student.'
- b. (i) On je izgubio adresu njihove sestre
he aux lost address their sister
'He lost the address of their sister.'
- (ii) **Čije* je on izgubio [adresu *sestre*]?
whose aux he lost address sister
'Of whose did he lose address sister?'

These examples show that extraction is not permitted out of the complements of the noun. I will again argue that the ungrammaticality of these sentences is due to the fact that both the pronominal element and the noun itself must occupy derived positions. In other words, since on the analysis proposed here two movement steps are necessary to derive a split construction, both the interrogative word *kojeg* and the noun *studenta* in (122-a-ii) must move out of the dominating phrase. There is no position below the dominating noun *knjigu*, which could serve as the landing site of the scrambled NP *studenta*. That this analysis is on the right track is suggested by the following examples from Bošković (2002):

- (123) a. **Čije* je on video prijatelja *majke*?
whose aux he seen friend mother
'A friend of whose mother has he seen?'
- b. **Čije* je on prijatelja *majke* video?
whose aux he friend mother seen
- c. (?)*Čije* je on *majke* video prijatelja?
whose aux he mother seen friend

Bošković (2002) observes that extraction of a left branch constituent from the NP-complement improves if the lower NP moves outside of the dominating NP, as in (123-c). The fact that (123-c) is still somewhat degraded can be attributed to the fact that extraction of genitive complements of nouns is not completely

acceptable, as shown in chapter 3. What is interesting here is that there is a clear contrast in grammaticality between (123-a) and (123-c). Notice that moving the whole higher NP in front of the verb, as in (123-b) does not improve the status of (123-a). These facts can be straightforwardly accounted for under the remnant movement analysis. The only possible grammatical output is the one where the left branch constituent and the remnant NP both undergo movement out of the VP. The derivation of (123-c) proceeds as follows:



PP-splits again behave in a manner parallel to split DPs. In other words, the examples improve if the scrambled NP appears in front of the verb.

- (125) a. **O* *kojim* su oni objavili članak *studentima*?
 about which aux they published article students
 ‘About which students did they publish an article?’

- b. *O kojim su oni studentima objavili članak?*
about which aux they students published article

I assume that these cases should be analysed on a par with DP-splits. First the NP *studentima* moves out of the PP and lands in the position preceding the verb, after which the remnant PP fronts to the SpecFocP.

Having established that split constructions involve two movement steps, in the next section I turn to the issue of what triggers these instances of movement.

5.2.2 Motivating the movements

In this section I will argue that split constructions in Serbian arise when particular focus requirements need to be satisfied. In particular, I will propose that the first movement step has the purpose of removing all non-focused material from a DP/PP, while the second step fronts the focused part to the SpecFocP. My analysis builds on the proposal put forward by Reinhart (1995) for cases of object scrambling in Dutch. I will start off by briefly reviewing Reinhart's account of Dutch, and then proceed to argue that focus requirements trigger movement in Serbian split constructions as well. The proposal will account for another property of split-constructions, namely their apparent optionality.

XP-Scrambling in Dutch It has been observed in the literature that scrambling in Dutch and German is subject to certain definiteness restrictions. In particular, while definite NPs freely scramble, an indefinite NP can scramble only if it gets either a specific (126-b) or a generic reading (126-a) (from de Hoop 1992).

- (126) a. dat de politie taalkundigen altijd opgepakt heeft.
 that the police linguists always arrested has
 b. dat de politie een kraker gisteren opgepakt heeft.
 that the police a squatter yesterday arrested has

The placement of direct objects with respect to adverbs *altijd* and *gisteren* indicates that these phrases have indeed undergone scrambling. In the neutral order, the objects are adjacent to the verb, whereas in the scrambled version they precede the adverbs.

A number of proposals were put forward that relate the possibility of scrambling to the properties of the NPs in question. It was assumed that only strong NPs can scramble. Diesing (1992) takes strong to mean 'presuppositional', and argues that indefinite NPs can be ambiguous between strong/presuppositional, and weak/non-presuppositional reading. For de Hoop (1992), an NP is strong if it is either specific, generic or partitive. However, de Hoop notices that being 'strong' is not a sufficient condition. Consider the following examples:

- (127) a. omdat ik altijd een kat heb
 because I always a cat have
 b. *omdat ik enn kat altijd heb
 because I a cat always have
 c. omdat ik een kat altijd liefheb
 because I a cat always love

In (127-b) where the indefinite is generic, we would expect scrambling to be allowed. This is however not the case, as only the non-scrambled order is permitted. On the other hand, the minimally different (127-c), allows scrambling. This suggests that the properties of the verb also have an effect on the possibility of scrambling. The property in question seems to be contrastiveness. Reinhart points out that the scrambled version of (126-b) is best translated to English with a heavy stress on *arrested*.

- (128) dat de politie een kraker gisteren opgepakt heeft
 that the police a squatter yesterday arrested has
 'that the police **ARRESTED** a squatter yesterday'

In other words, if the verb cannot be contrasted, scrambling will also be disallowed. Reinhart goes on to argue that this is the reason why (127-b) is ungrammatical. In the unscrambled sentences, the focus is assigned to the object. In order for a verb to receive the main sentence stress, the object must be removed from the domain of the focus. This is the driving force behind the scrambling movement.

To support her theory, Reinhart adopts Cinque's (1993) theory of stress and focus. The central idea behind Cinque's theory is that the main stress of the sentence will be on its most embedded constituent. In a two-sister node configuration, the most embedded constituent is the one appearing on the recursive side of the tree. In the right-branching language like English, in the VO structure, the most embedded node is the object. In the left-branching language like Dutch, in the OV configuration, it will again be the object. This type of stress assignment is independent of discourse considerations. However it determines the set of possible foci. In other words, the focus can be placed on any constituent containing the main stress of the sentence. In the example (129), the main stress falls on the object. As a result, the sentence can be uttered in all the contexts in which NP, VP and IP, all of which contain the object, serve as focus. In the following examples, the main stress is marked by bold-face, whereas the constituent which constitutes focus in a given context is underlined.

- (129) a. What is that noise?
 My neighbour is building a **desk**.

- b. What's your neighbour doing?
My neighbour is building a **desk**.
- c. What is your neighbour building?
My neighbour is building a **desk**.
- d. Has your neighbour bought a desk already?
#My neighbour is building a **desk**.
- e. Who is building a desk?
#My neighbour is building a **desk**.

The constituents not included in the focus set are the subject and the verb. This is the reason why (129-d) and (129-e) are inappropriate. In order to make these sentences felicitous, the stress must be relocated to the constituents we wish to focus. This is an uneconomical operation, in the minimalist sense, because it involves an additional operation. Instead of resorting to this costly operation, other languages use word order variation to achieve the same effect. Reinhart claims that this is precisely what happens in Dutch. If the object stays in its base generated position, it will receive the neutral sentence stress. Therefore, in order to allow the verb to receive focus, the object must be scrambled out, that is removed from the domain of focus assignment. That object scrambling is motivated by focus considerations is further supported by the fact that the examples become ungrammatical when the verb is not good potential focus, as illustrated in (127-b). Furthermore, a pronoun will obligatorily scramble, since it cannot carry the main stress.

- (130)
- a. Ik heb het gisteren gelezen.
I have it yesterday read
 - b. *Ik heb gisteren het gelezen
I have yesterday it read

Finally, the observation that definites scramble better than indefinites also follows from the focus analysis of XP-scrambling. It is typically the case that indefinites constitute better foci, because they represent new information. Therefore they typically do not scramble, but stay in their base position where they can be assigned focus.

Another piece of evidence that the availability of scrambling is connected to the focus properties of the structure, rather than the definiteness effect is provided by (131). Here, although a definite NP has undergone scrambling, the resulting construction is ungrammatical because there is a mismatch between focus and stress.

- (131) a. *Ik heb de krant nog niet **gelezen**, maar ik heb het boek
 I have the newspaper not yet read but I have the book
 al wel **gelezen**.
 already indeed read
 ‘I have not read the newspaper yet, but I have already read the book
 indeed.’
- b. Ik heb nog niet de **krant** gelezen, maar ik heb al wel het **boek**
 gelezen

Reinhart argues that all these facts point toward the focus analysis of object scrambling in Dutch.²⁶ Let me summarize what the basic points of Reinhart’s approach are. In the sentence with the neutral word-order, the focus will be assigned to the object, rather than the verb in Dutch. In order to shift the focus of the sentence to the verb, or to defocus the object, the object must be scrambled from within the VP. Since English has more limited word order options, it cannot make use of this strategy. Instead, focus is assigned in English by relocating the stress.

Split-XPs in Serbian It was illustrated in chapter 3 that both splitting an XP and pied-piping of the entire phrase will yield a grammatical output in Serbian. Thus, we seem to have a choice between constructions in (a) and those in (b).

- (132) a. (i) *Čiju su oni knjigu objavili?*
 whose aux. they book published
 ‘Whose book did they publish?’
- (ii) *Novi je on auto slupao.*
 new aux he crashed car
 ‘He crashed the new car.’
- b. (i) *Čiju knjigu su oni objavili?*
 whose book aux they published
- (ii) *Novi auto je on slupao.*
 new car aux he crashed

However, this optionality is only apparent. In fact, if we explore the relevant constructions in greater detail, we notice that they are not used in the same contexts.

²⁶Similar proposals regarding scrambling as movement of non-focused constituents in order to highlight focused elements have been made for German by Haider and Rosengren (1998), Krifka (1998) among others, as well as by Alboiu (1999) for Romanian.

Sentences with non-split XPs are used when neither the noun, nor the prenominal element are part of the shared background knowledge of the speaker and the hearer. In other words, they are natural in out-of-the-blue contexts. Any other order is infelicitous. Consider the contrast below.

- (133) a. What did they do in class yesterday?
b. Čitali su *Andrićevu knjigu*.
read aux Andrić's book
'They read Andrić's book.'
c. #*Andrićevu* su oni *knjigu* čitali.
Andrić's aux book read
'It was Andrić's book that they read.'

In this context, there is no presupposition that the students read a book of some kind at all. In fact, they could have done any number of things, such as presenting their work, taking a test, writing an essay etc. The order in (133-c) is only appropriate if both speakers know that book-reading was one of the activities in the class that day.

If the prenominal element belongs to the presupposed part of the sentence, it cannot be preposed on its own.

- (134) a. Did you buy something nice?
b. #*Lepu* sam kupila *majicu*.
nice aux bought shirt
'I bought a nice shirt.'

In other words, if both the adjective and the noun convey new information, the head noun will carry the main stress. An adjective can be preposed only if it by itself carries new information. The example below is felicitous only if we know that Marko has at least two cars, and that he crashed one of them.

- (135) a. *Novi* je on *auto* slupao.
new aux he car crashed
'It was the new car that he crashed.'

Imagine as a further illustration the following situation. Ana just revealed to Nataša that one of their friends is about to get married. Nataša is usually only interested in the wedding cake, so that is the first piece of information she illicitly. Here the main stress is on the noun.

- (136) *Kakvu tortu* su oni naručili?
what.kind cake aux they ordered
'What kind of cake did they order?'

If on the other hand, Ana mentioned that they already ordered the cake the day before, Nataša could felicitously ask the following question, where the interrogative word receives the main stress.

- (137) *Kakvu* su oni *tortu* naručili?
what.kind aux they cake ordered

In other words, split constructions are used if the speaker wants to focus a certain part of an XP that normally would not receive the main stress. If a prenominal element is separated from the rest of the phrase, then it constitutes the most informative part of the phrase. Assignment of contrastive focus is one of the most typical functions of split structures. Consider the following example where the possessive *Andrićevu* is contrastively focused.

- (138) a. A: I heard they translated Stanković's book.
b. B: *Andrićevu* su oni *knjigu* preveli, a ne Stankovićevu.
Andrić's aux they book translated, and not Stanković's
'It was Andrić's book that they translated, not Stanković's.'

If the second conjunct forces the restriction of the focus to the noun, the examples become unacceptable.

- (139) a. (i) **Novi* je on *auto* prodao, a ne novu kuću.
new aux he car sold, and not new house
'It was the new car that he sold, and not the new house.'
(ii) *Novi* je on *auto* prodao, a ne stari.
new aux he car sold and not old
'It was the new car that he sold, and not the old one.'
b. (i) **Markov* su oni *roman* objavili, a ne Markove
Marko's aux they novel published, and not Marko's
pesme.
poems
'It was Marko's novel that they published, and not Marko's
poems.'
(ii) *Markov* su oni *roman* objavili, a ne Marijin.
Marko's aux they novel published, and not Marija's
'It was Marko's novel that they published, and not Marija's.'

With this in mind, it is natural to conclude that split constructions are forced by focus considerations. Fronting of the remnant XP is an instance of focus movement, targeting Spec of FocP in the left periphery. However, this still does not explain why the focus movement must be preceded by scrambling of a part of the XP. In other words, why can't the focused element pied-pipe the rest of the phrase? I will assume that scrambling of the NP is motivated by the necessity to remove a particular constituent from the domain of focus. In this respect, Serbian split-constructions resemble Dutch XP-scrambling. If the NP does not move out, the stress will fall on the noun or be projected on the whole constituent. A phrase will be split when only the left branch constituent carries focus features. Therefore, I will assume that the first step of the movement is a kind of *expulsion movement*, that removes the defocused part of the DP. In other words, everything that is not focused must vacate the phrase before the focused part is fronted.

We can thus conclude that the optionality of split constructions is only apparent. This is in accordance with the minimalist hypothesis that movement is a last resort device to satisfy certain interface requirements. A derivation will converge at interface levels, LF and PF, if it contains only legitimate LF and PF objects. The question that arises is what constitutes a legitimate object. A standard assumption is that an element must have all its strong features removed before the Spell Out, otherwise the derivation will crash. Removal of a feature is accomplished by movement. Therefore, movement is formally triggered by matching of features. This implies that there is a head X, endowed with feature F, which acts as a Probe searching for a goal Y in its c-command domain. After the appropriate element, bearing the same feature has been identified, it is then remerged in the immediate structural environment of X. If the relevant feature is strong, the checking must take place in overt syntax. Alternatively, the checking can be delayed until LF, if an element bears a weak feature. On such a view, the remnant XP-fronting in Serbian split constructions is a movement driven by strong focus feature, that targets a position in the left periphery of the clause, where it enters in the Spec-head agreement with a head bearing the matching feature. Rizzi (2004) points out that the heads related to the interpretative properties, such as *topic* and *focus*, can be morphologically expressed in some languages. Consider the following examples from Gungbe (from Rizzi 2004, citing Aboh 1998):

- (140) a. Un sè do dan lo yà Kofi hu ì.
 I heard that snake the Top Kofi killed it
 b. Un sè do dan lo wè Kofi hu.
 I heard that snake the Foc Kofi killed

A head bearing a certain feature designates a position dedicated to the relevant type of interpretation. The constituent is first merged in the position in which it is

semantically selected, and then it is merged again in the position dedicated to the scope/discourse properties.

With this in mind, the next issue I would like to address concerns the nature of the scrambling movement that precedes remnant XP fronting. It is not immediately obvious what triggering feature forces the evacuation of the non-focused material. There are two theoretical options we could entertain here. One possibility is to allow movement that is not driven by Attract feature. This clearly goes against one of the central assumptions of the minimalist approach just presented, which considers all movement to be the result of attraction by a probe. However, when explored in more detail, the claim that all movement is driven in this way seems to be very strong. It requires attractors bearing relevant features to be identified in all cases, and moreover their presence must be well-motivated from the empirical point of view. That this is not a trivial task is suggested by the fact that in certain cases it seems to be necessary to introduce purely formal features, whose only purpose is to force a movement step to occur. Rizzi (2004) argues that such features are needed to trigger movement to intermediate positions. In an A'-chain, there are two interpretatively relevant positions: one is s-selection position, which is in case of arguments related to thematic properties; the other is a position dedicated to the expression of some scope-discourse property. Nevertheless, there is diverse and compelling evidence that in addition to these two positions relevant at the interface, chains must involve intermediate positions as well. What forces an element to land in an intermediate position is in fact a locality requirement that movement must be short, that is chains cannot be of unlimited length. Thus there are two competing economy conditions: one allowing an XP to undergo movement only if it achieves an interface effect, and the other forcing the movement to be local. Rizzi points out that the paradox of these intermediate positions is that on the one hand they must independently cause a movement to occur, assuming that there is no "look-ahead", but on the other hand, we need to ensure that this is not the final target of movement. Rather intermediate positions function as escape hatches through which an element must pass if locality is to be respected. If we wish to keep the idea that all movement is driven by feature attraction, we must assume that there are formal features whose only role is to bring the phrase undergoing movement closer to its target, in accordance with locality principles. This would give us the following representation for a sentence like (141), where low case *q* is a purely formal counterpart of the Q feature.

(141) I wonder [what_i C_Q [you think [t_i that_q [I saw t_i]

The presence of purely formal features is sometimes called upon in order to account for apparently optional types of movement. Displacement of this kind is

particularly problematic for the minimalist view of movement as a last resort strategy. For instance, Müller (1998) assumes that scrambling in German is driven by a strong [scr] feature, which he takes to be a purely formal feature, void of any inherent semantic or functional content.²⁷ Consequently, the two derivations yielding the scrambled and non-scrambled orders, do not start from identical numeration since they differ in feature specification on some head. As a result, what is optional in this case is not movement operation as such, but rather the presence of the triggering feature.

On the other hand, van Riemsdijk (1997) suggests that there may be another way to conceive of movement. As we have seen, movement typically establishes a relation between a source and a target position, and it is in fact properties of the landing site that constitute the trigger in the strict sense. A functional head attracts another element in its domain and forces it to move up to the functional projection hosting the probe. This can be viewed as a kind of *drag chain* in van Riemsdijk's terminology, and could plausibly be contrasted with a *push chain*. *Push chain* would be an instance of movement that is brought about by the contextual properties of the source position, rather than by any properties of the target. Van Riemsdijk presents it schematically as follows:

(142) ... X₁ A_i Y₁ X₂ [e]_i Y₂ ...

- a. drag chain: movement is triggered by X₁/Y₁
- b. push chain: movement is triggered by X₂/Y₂

Van Riemsdijk suggests that some instances of movement are best understood as cases of *push chains* rather than *drag chains*. XP-scrambling that yields a split construction seems to be such an instance of movement. The movement in this case is not triggered by any attracting feature in the landing site. Rather it is forced by the properties of the source position. If the NP stays within the fronted constituent, it will receive the main stress. This will preclude the assignment of focus to the left branch constituent only. In order to get a felicitous output, the non-focused material has to be *pushed out*. I will call this type of movement an *expulsion* movement. Plausibly, another instance of this evacuation type movement is employed in Dutch scrambling constructions.

Another possibility that would allow us to retain the idea of feature attraction, is to postulate the existence of an optionally merged probe bearing the relevant

²⁷Müller (1998) does not deny the fact that scrambling can have a semantic effect, but assumes that this is not due to a specific semantic contribution of some feature triggering scrambling, but is attributed to the relative surface order of quantified items.

feature that would trigger evacuation of the non-focused material. On this view, there would be two attractors searching for elements with matching features. We would have the following configuration, where two distinct features are realized on two elements in the same phrase.

(143) [... X_{F1} ... Y_{F2} ...]

Consequently, the only grammatical output is the one in which the complex phrase splits. We could assume that the non-focused material is attracted by a [top] feature. Subsequently, the rest of the phrase bearing [foc] feature will raise to the specifier of the relevant functional projection.

Summarizing the conclusions so far, the two options regarding the trigger of the first movement step in split constructions are:

1. The movement is brought about by the properties of the source position. It is an expulsion movement
2. The movement is triggered by an optionally merged attractor

The question is now whether there is a reason to favour one of the two possibilities. A potential argument for treating the first scrambling operation as a different type of movement concerns the behaviour of this evacuation movement with respect to islands. Namely, the movement step necessary for creating a split construction, is not sensitive to certain islands. Consider the examples below which illustrate that PPs are islands for extraction in Serbian. Wh-movement in (144-b), topicalization in (144-c), and scrambling (144-d) cannot extract a phrase out of the PP.

- (144)
- a. Policija je ušla u Jovanovu kuću.
police aux go into Jovan's house
'Police went into Jovan's house.'
 - b. *Šta je policija ušla u Jovanovu.
what aux police go into Jovan's
 - c. *Kuću je policija ušla u Jovanovu.
house aux police go into Jovan's
 - d. *Policija je kuću ušla u Jovanovu.
police aux house go into Jovan's

PPs can nevertheless be split, as exemplified below.

- (145) *U Jovanovu je policija kuću ušla.*
Into Jovan's aux police house go

What we are observing is that neither of the three relatively well explored types of movement, namely wh-movement, scrambling and topicalization, can be called upon to account for the formation of split XPs. There seems to be something fundamentally different in the nature of the first movement step in split constructions.

Similar arguments can be formulated with respect to adjunct islands. The extraction out of an adjunct is disallowed in Serbian, as shown in (146-a). However, ungrammaticality does not arise in the case of split construction (examples are from Bošković 2002).

- (146) a. *Čime je on pobegao zbog pretnje?
 what aux he run.away because.of threat
 ‘He ran away because of the threat of what?’
- b. *Zbog čijih je on studenata došao?*
 because.of whose aux he students came
 ‘He came because of whose students?’

Recall also from chapter 3, that DPs bearing inherent case are opaque for extraction. Some representative examples are repeated below.

- (147) a. *Kojih partija je on verovao vođama_{Dat}?
 which parties aux he trust leaders
 ‘Leaders of which parties did he trust?’
- b. *Kojih ljudi se plašio optužbi_{Gen}?
 which people aux be.afraid accusations
 ‘Accusations of which people was he afraid of?’

Nevertheless, the evacuation of the NP that preceeds remnant DP fronting is permitted. In (148-a) the split DP is marked for dative, while in (148-b) it bears genitive case.

- (148) a. *Kojem_{Dat} je on političaru_{Dat} verovao?*
 which aux he politician trust
 ‘Which politician did he trust?’
- b. *Kakvih_{Gen} se on ljudi_{Gen} plaši?*
 what.kind refl he people be.afraid
 ‘What kind of people is he afraid of.’

We can thus conclude that the evacuation movement that creates the split is different in nature from other types of movement discussed in the literature. Notice further that in contrast to the expulsion movement the second movement step is sensitive to islands. The following example shows that neither wh-movement nor the second step of split construction formation can violate the Complex NP Constraint.

- (149)
- a. Marija je izgubila knjigu koju je Jovan pozajmio njejoj
 Marija aux lost book which aux Jovan lent her
 sestri.
 sister
 ‘Marija has lost the book which Jovan lent to her sister.’
 - b. *Čijoj sestri je Marija izgubila knjigu koju je Jovan
 whose sister aux Marija lost book which aux Jovan
 pozajmio.
 lent
 - c. *Čijoj je Marija izgubila knjigu koju je Jovan sestri
 whose aux Marija lost book which aux Jovan sister
 pozajmio
 lent

Furthermore, remnant XP fronting cannot escape from an adjunct island (150-a-ii), or a wh-island (150-b-ii). The same applies to the regular wh-extraction.

- (150)
- a. (i) *Kakve dokumente su ga uhapsili zato što je
 what.kind documents aux him arrested because of aux
 ukrao?
 stole
 ‘what kind of documents did they arrest him because he had
 stolen?’
 - (ii) *Kakve su ga uhapsili zato što je dokumente
 what.kind aux him arrested because of aux documents
 ukrao?
 stole
 - b. (i) *Čiju kuću si pitao ko je kupio?
 whose house aux asked who aux bought
 ‘Whose house did you ask who bought?’
 - (ii) *Čiju si pitao ko je kuću kupio?
 whose aux asked who aux house bought

What we are empirically observing is that the movement labelled as *expulsion* is not subject to the same conditions as other known types of movement, such

as wh-movement, topicalization and scrambling. Consequently, none of these movement types can be used to derive split constructions. I will assume that the difference between expulsion and other movement operations resides in the fact that expulsion is not driven by Attraction, but by the properties of the source position.²⁸ The question is of course what enables this movement to violate certain islands. The answer I think will depend on the theory of locality. Generally, islands come in two varieties: strong islands such as CNPC and adjunct islands, and weak islands such as wh-islands. Weak islands are typically explained by some form of Relativized Minimality (Rizzi 1990). The key idea of the system of Relativized Minimality is that a chain relation cannot be formed if a position of the same kind as the target position intervenes. The same intuition is captured in later adaptations of RM, such as *Attract Closest*, or Chomsky's *Minimal Link Condition*:

(151) *Minimal Link Condition*

K attracts A only if there is no B, B closer to K than A, such that K attracts B.

Given that movement is related to features in the minimalist program, this means that K cannot attract an element bearing the matching feature if there is an intervener that bears the same feature as the target. Thus a Wh-island violation arises when the higher C attracts the wh-element in the embedded question, skipping a wh-position in the embedded C layer. On the other hand, strong islands, being left in the domain of barriers, remained as a kind of stipulation in the Minimalist framework. However, recently there have been attempts to give a unified account of these phenomena. Starke (2001) argues that relativised minimality is sufficient to capture all locality effects if we postulate a more refined structure of syntactic features, which he organizes in a feature tree. Without going into the details of the analysis, this implies that the following configuration will be ungrammatical if X and Y belong to the same class Q of features.²⁹

- (152) a. *...X...Y...t_X
 b. *...X...[_Y...t_X

However, consider a situation where X belongs both to feature class Q and to an SQ class, which is a subclass of Q. Then X can choose to do either Q-movement or SQ-movement. In other words, it will be able to escape in certain cases, provoking a weak island effect. On the other hand, Y, which belongs to the superclass of

²⁸Notice that the fact that some islands are necessarily respected, whereas others are systematically violated is a problem for direct extraction approaches.

²⁹Originally, Rizzi (1990) assumes that a Specifier is an intervener if it is of the same type. Starke believes that it can also be a mother node as in (152-b)

features, will never be able to skip over X. This gives us the strong island effects.

If all island effects could be reduced to the featural make-up of the target and the intervenor, we could assume that the expulsion movement is insensitive to islands precisely because it does not establish a chain relation between two elements bearing the matching feature. In case of expulsion movement, there is no attractor that is searching for an element bearing the relevant feature, and thus there are no locality effects induced by an intervenor with the same feature.³⁰

5.3 Split XPs with multiple left branch constituents

Bošković (2002) argues that the behaviour of split constructions involving DPs with multiple adjectives raises serious problems for the remnant movement analysis of Franks and Progovac (1994). Recall that according to Franks and Progovac only NPs, but not APs can undergo the first movement step feeding remnant PP fronting. I referred to this assumption as *the ban on AP scrambling*. This was meant to rule out examples such as (153).

- (153) ??*U ovu sam se zaljubio lepu studentkinju.*
 in this aux refl fell.in.love pretty student
 ‘I fell in love with this pretty student.’

Apparently, a PP cannot be split if as a result two prenominal modifiers end up separated from each other. Bošković (2002) observes that the same is true of DP-splits:

- (154) a. *Visoke je on video devojke.*
 tall aux he seen girls
 ‘Tall girls, he saw.’
 b. *Lepe je on video devojke.*
 beautiful aux he seen girls
 ‘Beautiful girls, he saw.’
 c. **Visoke je on video lepe devojke.*
 tall aux he seen beautiful girls
 d. **Lepe je on video visoke devojke.*
 beautiful aux he seen tall girls

³⁰Alternatively, we could retain the idea of feature attraction if we assume that the movement creating XP-splits is of such a different nature that it is not blocked by any intervenors; it is in the class of its own.

Clearly, the ban on AP scrambling would rule out the ungrammatical DP-splits as well. However, no explanation is offered by Franks and Progovac as to why APs differ from DPs in this respect, and Bošković rightly observes that the ban on AP scrambling is no more than a stipulation.

Furthermore, while prohibiting AP scrambling would suffice to account for the ill-formed examples given so far, it does not exclude (155-a) and (155-b).

- (155) a. **Visoke lepe* on gleda *devojke*.
tall beautiful he watches girls
'He is watching tall beautiful girls.' (from Bošković 2002)
- b. **Sa visokom lepom* on *devojkom* razgovara.
with tall beautiful he girl talks
'He is talking to a tall beautiful girl.'

Notice that under the approach of Franks and Progovac, (155-b) can be analyzed in basically the same way as other cases of split PPs. Namely, first the NP *devojkom* would scramble out, and then the rest of the PP would be preposed. It is far from obvious how this derivation can be ruled out since the first movement step does not affect an AP.

It is worth noting that Franks and Progovac do not claim that APs cannot scramble out of APs. However, that is how Bošković (2002) systematically interprets their ban on AP scrambling. This leads him to argue that the analysis must be abandoned in light of the following examples:

- (156) a. *Novim* je on zadovoljan *poslom*.
new aux he content job
'He is content with his new job.'
- b. *Hrabrim/svojim* je on veran *vojnici*.
brave/his aux he loyal soldiers
'He is loyal to brave/his soldiers.'

In (156) the adjective uncontroversially takes another NP, with its own prenominal modifier, as a complement. The extraction of an AP out of the NP complement of the adjective is allowed. Bošković claims that there is no principled distinction between (155-a) where a full AP moves out of another AP, and (156) involving remnant AP movement out of an AP. Both involve AP movement out of another AP and should be prohibited. However, if interpreted correctly the ban on AP scrambling is consistent with the examples above. What Franks and Progovac

assume is that APs, for some reason, cannot undergo the first step of the movement, which is a scrambling operation. The examples in (156) are predicted to be well-formed since the scrambling step affects the NPs *poslom* and *vojnica* and not the APs. I think the confusion is due to the fact that Franks and Progovac do not illustrate how the derivation of (153) proceeds, nor do they clarify their assumptions about the structure of DPs in Serbian. As a result, it is difficult to tell whether they assume that the demonstrative *ovu* is categorially an adjective or not.³¹

Nevertheless, I conclude that the ban on AP movement is highly stipulatory and raises as many questions as it tries to answer. While it is clear that this particular assumption is unjustified, it does not mean that the remnant movement analysis cannot be maintained. What is more, I will argue that the behaviour of split constructions with multiple modifiers provides further support for the analysis proposed here.

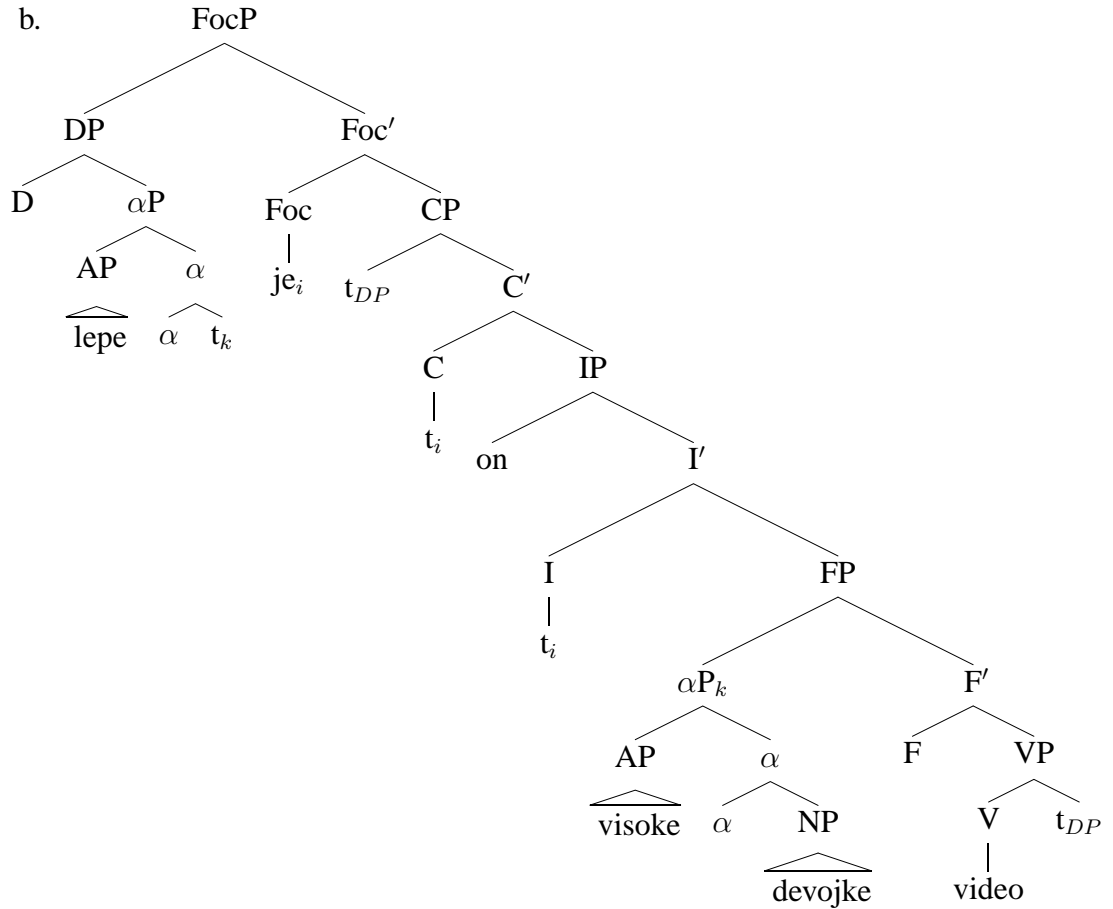
An important observation that Bošković himself makes is that the ungrammatical examples in (154) significantly improve if the fronted adjective is contrastively focused, bearing strong contrastive stress. In the following context, separation of two adjectives is perfectly acceptable.

- (157) A: I think that Marko said he saw ugly tall girls.
B: Ne, *lepe* je on video *visoke devojke*, ne ružne.
no, beautiful aux he seen tall girls not ugly

I take this to directly support the focus motivated analysis I am proposing. The first movement operation evacuates the defocused material out of the DP, while the second step fronts the remnant to the Spec of FocP. The derivation of a split construction with two adjectives proceeds in the following manner:

³¹Notice that even the second step in the derivation of (156) would not affect the AP. On the analysis of Franks and Progovac, there is a DP layer dominating the AP, so the scrambling of the NP *poslom* would be followed by fronting of the DP containing the adjective to the left periphery.

- (158) a. *Lepe je on visoke devojke video.*
 beautiful aux he tall girls seen



What this tells us is that scrambling of an AP is not prohibited per se. Rather what is required is that the second step be a focus movement. Therefore, contrary to Franks and Progovac, I will assume that any projection can undergo the first movement step as long as it belongs to the non-focused part of the phrase. The contrast with respect to the possibility of scrambling does not reside in the AP/DP distinction, but in the focused vs non-focused part of the phrase.

Consider several more examples showing that two prenominal elements can be separated in the appropriate context.³²

³²It is important to note that Bošković's observations concerning the behaviour of phrases with multiple adjectives extends to these cases as well, since he assumes that all prenominal elements, including demonstratives, possessives and quantifiers are categorially adjectives. In other words, all prenominal elements are unseparable unless one of them is focused.

- (159) a. *Koji je Jovan novi auto slupao?*
Which aux Jovan new car crashed
'Which new car did Jovan crash?'
- b. *Koliko je on ovih pilula popio?*
How.many aux he these pills drunk
'How many of these pills did he drink?'
- c. *Markovog su oni starijeg sina uhapsili.*
Marko's aux they elder son arrested
'It is Marko's elder son that they have arrested.'

In the example (159-a), the determiner *which* is split from the rest of the DP. The sentence is felicitous if the speaker knows that Jovan has more than one new car, and he already crashed one of them. The part of the DP that is left behind constitutes the presupposed information. The same is true of (159-b) and (159-c). In other words, any two prenominal constituents can be separated, as long as one of them undergoes focus movement.

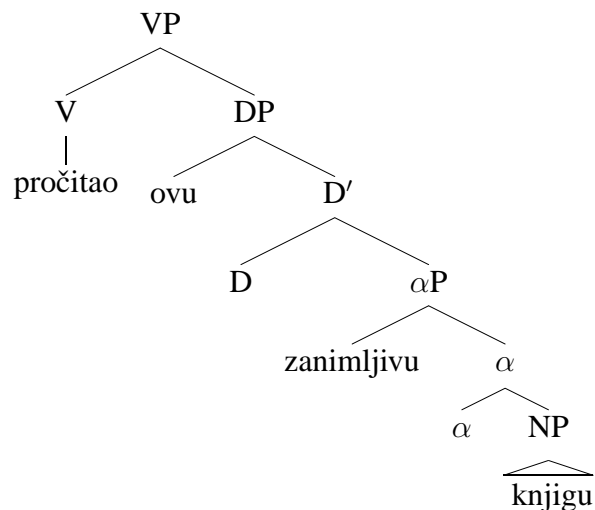
Franks and Progovac give the examples (160-c) and (160-d) in support of their *Scope Preservation Principle*:³³

- (160) a. *On je pročitao ovu zanimljivu knjigu.*
he aux read this interesting book
'He read this interesting book.'
- b. **On je pročitao zanimljivu ovu knjigu.*
he aux read interesting this book
- c. *Ovu je on zanimljivu knjigu pročitao.*
this aux he interesting book read
- d. **Zanimljivu je on ovu knjigu pročitao.*
interesting aux he this book read

Franks and Progovac argue that sentences like (160-d) are ruled out because scopal relations are disrupted. On the analysis proposed here, the example (160-d) cannot be generated, since it would require the expulsion movement to affect a non-constituent. Consider the relevant part of the structure before any movement operations have taken place.

³³There is no overt subject in the original examples. I have however included the subject to avoid the problems regarding the placement of second position clitics.

(161)



On my assumptions, the demonstrative *ovu* and the attributive adjective *zanimljivo* are generated in different functional projections. The expulsion movement can only target α P, that is only the adjective and the noun can be evacuated together as they are adjacent to each other. This will then be followed by a focus movement of the remnant DP, yielding the grammatical (160-c). On the other hand, the noun and the demonstrative cannot be removed together to the exclusion of the intervening adjective, which accounts for the ungrammaticality of (160-d). Therefore, even if the adjective is focused the grammatical output with the fronted adjective cannot be obtained. It is unclear to me how the contrast between (160-c) and (160-d) can be captured on the alternative analyses. That the expulsion movement can affect only adjacent elements is further illustrated by the following examples:

- (162)
- a. Ona je upoznala ovog Jovanovog brata.
 she aux met this Jovan's brother
 'she met this brother of Jovan's.'
 - b. *Ona je upoznala Jovanovog ovog brata.
 she aux met Jovan's this brother
 - c. Ovog je ona Jovanovog brata upoznala
 this aux she Jovan's brother met
 - d. *Jovanovog je ona ovog brata upoznala.
 Jovan's aux she this brother met

We have seen in chapter 2 that demonstratives necessarily precede possessives and attributive adjectives. Consequently, a demonstrative will never be adjacent to the noun if a possessive or an adjective is present, and therefore cannot undergo expulsion together with the noun. The same patterns are observed when one of

the prenominal elements is an interrogative word.³⁴

- (163) a. (i) Kojeg je ona Jovanovog brata upoznala?
 which aux she Jovan's brother met
 (ii) *Čijeg je ona ovog brata upoznala?
 whose aux she this brother met
 b. (i) Kojeg on slavnog glumca uvek imitira?
 which he famous actor always imitate
 'Which famous actor does he always imitate?'
 (ii) *Kakvog on ovog glumca uvek imitira?
 what.kind he this actor always imitate

As far as quantifiers are concerned, I pointed out in chapter 2 that their position within the DP is somewhat flexible with different effects on the interpretation.

- (164) a. Prodao je nekoliko ovih knjiga.
 sold aux several these books
 'He sold several of these books.'
 b. Prodao je ovih nekoliko knjiga
 Sold aux these several books
 'He sold these several books.'
 c. Koliko je on ovih knjiga prodao?
 how.many aux he these books sold
 'How many of these books did he sell?'

Although the quantifier can be split from the rest of the phrase and fronted, it is difficult to tell what the original structure of the DP was. Examples from Polish are more illuminating in this respect. In contrast to Serbian, in Polish only the material dominated by the quantifier will be marked for genitive case.³⁵

³⁴Split PPs again exhibit the same behaviour as split DPs.

- (i) a. U ovog se ona Jovanovog brata zaljubila.
 in this refl she Jovan's brother fell.in.love
 'She fell in love with this brother of Jovan's.'
 b. *U Jovanovog se ona ovog brata zaljubila.
 in Jovan's refl she this brother fell.in.love

³⁵Recall that in Serbian quantifiers induce genitive marking on the noun and other material in the DP.

- (165) a. On kupił te pięć książek.
 he bought these_{Acc} five books_{Gen}
 ‘He bought these five books.’
 b. On kupił pięć tych książek.
 he bought five these_{Gen} books_{Gen}

The following examples show that a quantifier can be moved out only if it precedes the demonstrative. Notice that the rest of the noun phrase is necessarily in genitive case (the examples are from Rappaport 2001):³⁶

- (166) a. Ile kupiłeś tych książek?
 how.many bought these_{Gen} books_{Gen}
 ‘How many of these books did you buy?’
 b. *Ile kupiłeś te książek?
 how.many bought these_{Acc} books_{Gen}

This again indicates that expulsion can affect the demonstrative and the noun only if they are adjacent, that is both dominated by the quantifier.

Recall next that there are ordering restrictions on the placement of adjectives in Serbian. The partial ordering and a representative example repeated from chapter 2 are given below:

- (167) a. evaluating - size - colour - referential - denominal - N
 b. ogromna bela srpska svadbena torta
 huge white serbian wedding cake

Again, the adjective that is closest to the noun undergoes the expulsion movement. This accounts for the following contrasts:³⁷

- (168) a. Oni su naručili ogromnu svadbenu tortu.
 they aux ordered huge wedding cake
 ‘They have ordered a huge wedding cake.’
 b. Ogromnu su oni svadbenu tortu naručili.
 huge aux they wedding cake ordered

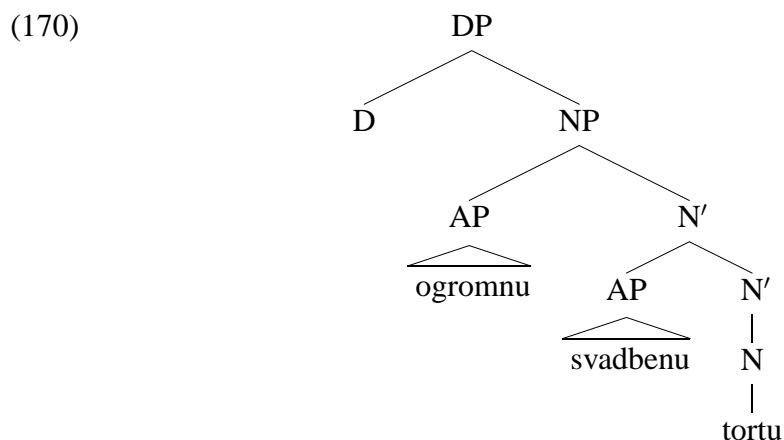
³⁶Russian patterns with Polish in this respect.

³⁷It is not very plausible that *mašinskog inženjera* in (169) forms a compound. Notice that the adjective *mašinskog* can itself undergo focus movement if no other adjective is present:

- (i) Mašinskog je on otpustio inženjera.
 mechanical aux he fired engineer

- c. *Svadbenu su oni ogromnu tortu naručili
wedding aux they huge cake ordered
- (169) a. Drskog je on mašinskog inženjera otpustio.
rude aux he mechanical engineer fired
'He fired the rude mechanical engineer.'
- b. *Mašinskog je on drskog inženjera otpustio.
mechanical aux he rude engineer fired

Insofar as the proposed remnant movement approach to split constructions is correct, it lends further support to Cinque-style analysis of adjective placement. In other words, adjectives must be located in specifier positions of distinct functional projections. If they are analyzed as occupying the Specs of the same head, the first step of the movement would have to affect an intermediate projection. Consider the internal structure of a DP on such a view:³⁸



Assuming that the movement of intermediate projections is prohibited, the noun and its modifiers cannot appear in the same functional projection.

Finally, I assume that two adjectives cannot be preposed together because contrastive focus cannot be assigned to two distinct adjectival phrases. This rules out the following ungrammatical examples:

- (171) a. *Visoke lepe on gleda devojke.
tall beautiful he watches girls
'He is watching tall beautiful girls.'
- b. *Sa visokom lepom on devojkom razgovara.
with tall beautiful he girl talks
'He is talking to a tall beautiful girl.'

³⁸This also implies that the adjective *ogromnu* would be required to appear in the higher Spec position, if we wish to derive the observed ordering restrictions.

The following conclusions can be drawn from this section. The impression that two prenominal constituents cannot be split is only apparent. The separation is possible under the right context, that is if one of the constituents is focused. This directly supports the focused based analysis. Furthermore, only elements adjacent to the noun can be evacuated together with it. As a result, some ordering patterns are not possible in any context. Crucially, prenominal adjectives must be located in specifiers of distinct functional projections rather than placed in multiple specifiers of the same head. To the extent that the analysis is successful, it provides further evidence for this approach to adjectival modification.

5.4 Extraction of DP-complements in Serbian and English

In chapter 3, we have seen that there are certain differences in extraction possibilities of prenominal vs postnominal constituents. Recall first that the extraction of DP-complements is typically allowed in Serbian. Some representative examples are repeated below.

- (172) a. Čega_{Gen} osećaš nedostatak_{Acc}?
 what feel lack
 ‘What do you feel a lack of?’
 b. O kome su oni objavili članak?
 about whom aux they published article
 ‘Who did they publish an article about?’

However, unlike the cases of split XPs, the extraction of postnominal elements is well-behaved with respect to island constraints. Consider again the contrast in sensitivity to adjunct islands.

- (173) a. *Čime je on pobegao zbog pretnje?
 what aux he run.away because.of threat
 ‘He ran away because of the threat of what?’
 b. Zbog čijih je on došao studenata?
 because.of whose aux he came students
 ‘He came because of whose students?’

The example shows that while it is permitted to split the adjunct, the extraction of a DP-complement from adjuncts yields a sharp degradation. Similar behaviour is observed with PPs (174) and inherently marked DPs (175), both of which are

opaque for extraction of postnominal elements, but allow splits.³⁹

- (174) a. (i) *Čijeg brata je policija ušla u kuću?
 whose brother aux police go into house
 ‘The police went into the house of whose brother?’
 (ii) *Iz koje partije su oni glasali za kandidata?
 from which party aux they voted for candidate
 ‘From which party did they vote for a candidate?’
- b. Za kojeg su oni kandidata glasali?
 for which aux they candidate voted
 ‘Which candidate did they vote for?’
- (175) a. *[Kojih partija]_{Gen} je on verovao vođama_{dat}?
 which parties aux he trust leaders
 ‘Leaders of which parties did he trust?’
 b. *Kojim*_{Dat} on *političarima*_{Dat} veruje?
 which he politicians trust
 ‘Which politicians does he trust?’

The question is what makes the extraction of postnominal elements different from the extraction of prenominal ones. Earlier in this chapter, I have argued that the left branch constituents are in fact never extracted from within the DP in Serbian. The impression that a prenominal element has moved out of the phrase is the result of two instances of movement. On the other hand, I will assume that the removal of postnominal elements does in fact involve direct extraction of the usual type, i.e. Attract, and consequently is subject to Minimality. Therefore, the difference in extraction of prenominal and postnominal constituents resides in the different nature of the movements involved.

Notice further that whereas English disallows the extraction of left branch constituents, it is a well-known fact that the extraction of NP-complements is permitted under certain conditions. The acceptability of extraction seems to be sensitive to the definiteness of the noun phrase.

- (176) a. (i) Who did you read a book about?
 (ii) Who did you read books about?
- b. (i) *Who did you read the/this book about?

³⁹Abels (2003) argues that PPs are not islands in Slavic. He derives the ban on preposition stranding by ruling out movement from complement to the specifier of the same head. Thus, his account prohibits the movement of the complement of P⁰, but allows extraction out of the complement of P⁰. However, the ungrammaticality of sentences in (174) remains unaccounted for under Abels’s assumptions.

- (ii) *Who did you read John's book about?

It has been argued that the so called 'definiteness' effect is better characterized as a 'specificity/presuppositionality' effect (see for instance Diesing (1992) and Starke (2001)). The example (177) shows that definites which are interpretatively non-specific do not block extraction, while specific indefinites do.

- (177) a. Who did they announce the death of?
b. ?*Who did you want to buy a certain picture of?

Starke (2001) treats this a relativized minimality effect and assumes that the specific quantifier (SQ) blocks the movement out of the DP. The relevant configurations are (from Starke 2001, p. 25):

- (178) a. ***wh**_{SQ} you would like to have my_{SQ} picture of **whom**_{SQ}?
b. **wh**_{SQ} you would like to have one_Q of the pictures of **whom**_{SQ}?

Given that features are organized in a feature-tree, the 'specific quantifier' can jump over the 'pure' quantifier since it is a subclass of the latter, however a wh-phrase cannot cross a specific determiner since an SQ intervener prohibits both Q and SQ movement. This gives us the 'specificity' island.

Recall now that Serbian also displays intervention effects. The examples from chapter 3 are repeated below.

- (179) a. (i) *O kome su oni objavili ovaj članak?
about whom aux they published this article
'Who did they publish this article about?'
b. (i) ?Čega si prodao kolekciju?
what aux sold collection
'What did you sell a collection of?'
(ii) *Čega si prodao Jovanovu kolekciju?
what aux sold John's collection

Although Serbian lacks overt articles, the presence of a demonstrative or a possessive blocks the extraction of a DP-complement. Thus we see that the extraction of postnominal constituents in Serbian is sensitive to the presence of an intervenor.

The factors that influence the extraction of postnominal constituents in both English and Serbian are not very well understood and are difficult to tease apart. Thus, I will not attempt a more detailed analysis at this point. However, what we can conclude given the analysis of split-XPs proposed here is that neither English nor Serbian extract the prenominal elements. On the other hand, both languages

allow the removal of DP-complements under certain conditions. An important difference between the two languages resides in the availability of splitting XPs. In the next chapter, I turn to the nature of cross-linguistic variation in more detail.

6 Cross-linguistic variation

As I have already pointed out, it is a well-known fact that Slavic languages like Polish, Czech and Serbian allow split constructions, while many other languages including English, and Dutch do not. An important question concerns the locus of parametric difference between these two types of languages. In this section, I will re-evaluate Corver's assumptions and make some tentative remarks concerning the sources of cross-linguistic variation. The issue however calls for a more detailed investigation, which is far beyond the scope of this thesis.

Recall that Corver places the burden of cross-linguistic variation solely on the presence vs absence of the determiner phrase. Languages which lack this functional projection are predicted to allow extraction of left branch constituents, whereas languages that clearly have determiners do not. The fact that English and Dutch block extraction is then straightforwardly captured by assuming that D projects a minimality barrier in these languages. However, in what follows I will argue that while Corver's approach to cross-linguistic variability is very appealing due to its simplicity, the contrast between English and Serbian cannot be reduced to a single property, such as the barrierhood of D.

We have seen in chapter 4 that the actual implementation of Corver's analysis is problematic from several aspects. Not only does the analysis require a rather complicated mechanism to derive PP-splits, but it fails to account for several properties of split constructions. By this I mean, the parallel behavior of DPs and PPs, the requirement that both parts of split XP appear in derived positions, behaviour of splits involving multiple modifiers, insensitivity to certain islands etc. Abstracting away from these technicalities for discussion of which I refer the reader back to chapter 4, probably the most serious conceptual problem is posed by the issue of the referentiality of DPs in Slavic. If a DP layer is systematically missing in certain languages, this implies that the referentiality is calculated in a different way from languages with overt determiners. That is clearly an unwelcome consequence. While the shortcomings of Corver's approach invite us to search for a more satisfactory account, it is important to determine whether the central assumption of his analysis is valid, that is whether the presence of D correlates with the availability of split XPs.

In the account of split constructions proposed here, I have assumed that the structure of noun phrases is basically the same in English and in Serbian, and significantly that there is a DP functional layer in Slavic NPs. As a result, the contrast between Serbian and English cannot reside in the presence of the DP. Notice however that there is an important difference between the direct extraction approaches and the remnant movement approach. On a Corver-style analysis, the NP remains in its base generated position, and contains a trace of the extracted left branch constituent. On the other hand, the analysis argued for here assumes

that it is in fact the NP that is extracted, leaving a trace in the dominating DP. In this respect, the term left branch extraction is quite misleading, since the prenominal element does not actually leave the DP. This is a significant difference which from a cross-linguistic perspective highlights a different set of phenomena. If the latter approach is on the right track, it suggests that split constructions in Serbian should not be compared with cases where a prenominal element has clearly been extracted. In what follows, I will show that this is a welcome consequence.

Given Corver's assumptions, we are led to believe that there is a clear cut regarding extraction patterns between languages with determiners and languages without overt determiners. However, a more detailed cross-linguistic comparison reveals surprising variability. For instance, focusing only on possibilities of possessor extraction in different languages, the complexity of the data poses a serious challenge for parametric accounts of extraction. Gavrusseva (2000) shows that the DP-hood and the overtness of D are not sufficient criteria for predicting which extraction options are permitted in a language. A particularly enlightening case in this respect is that of Hungarian. Recall that in Hungarian possessors surface between the determiner and the noun, triggering agreement in person and number features, which is expressed in the form of a suffix on the possessed NP. The determiner consistently appears in all possessive structures. The possessors can appear either in the nominative or in the dative case, depending on their position within the DP, i.e. following or preceding the article.

- (180) a. a Mari vendége.
 the Mari-Nom guest-poss.3sg
 'Mary's guest'
 b. Marinak a vendége
 Mari-Dat the guest-poss.3sg
 'Mary's guest'
 c. kinek a vendége
 who-dat the guest-poss.3sg
 'whose guest'

There is a difference in extraction possibilities between the nominative and dative possessors; only the latter are allowed to extract.⁴⁰

- (181) Kinek ismertétek a vendégét?
 who-Dat know-past.2pl the guest-poss.3sg.Acc
 'Whose guest did you know?'

⁴⁰Gavrusseva (2000), following Szabolcsi (1994) takes this to indicate that possessors are necessarily extracted through SpecDP, where they are assigned dative case.

Gavruseva discusses data from two more languages, Chamorro and Tzotzil, an Austronesian language. Both of these languages have overt articles, but nevertheless allow possessor extraction. Without going into further details, what is important to note here is that the cases discussed by Gavruseva are rather unexpected on Corver's assumptions. Whatever the source of the parametric difference in possessor extraction is, it cannot be reduced to the DP status of noun phrases.⁴¹ On the other hand, on the analysis proposed here, these cases are fundamentally different from split constructions in Serbian. It is plausible to assume that fronting of possessors in Hungarian involves actual extraction of the possessor from the DP, as indicated by the position of the article. As a result, I will not assume that the remnant movement analysis of Serbian carries over to Hungarian possessor extraction as well. Considering that on my assumptions Serbian split XPs are derived by extracting the NP, this shifts the focus of comparison to a different set of phenomena. Once we view Serbian split constructions in this different light, we find remarkable similarities with split constructions in other languages.

German is another language that allows its DPs to split under certain conditions. The phenomenon has been referred to as *split topicalization*, and has received much attention in the literature as a challenge for syntactic accounts of discontinuous constituency. In split topicalization constructions, an NP appears in sentence initial position while the prenominal element is stranded in the lower position in the clause (from van Riemsdijk 1989, and Fanselow and Ćavar 2002).

- (182)
- a. Amerikanische Frauen habe ich bis jetzt keine gekannt.
american women have I so far none known
 - b. Bücher kaufe ich nur Peters.
books buy I only Peter's
'I just buy Peter's books.'
 - c. Autos besitzt er (nur) schnelle.
cars owns he only fast
'As for cars, he owns only fast ones.'

The construction exhibits many properties similar to Serbian split constructions. Consider first the possibilities of extraction out of DPs in German, and the behaviour of split DPs with respect to islands.

German patterns with Serbian in allowing extraction out of object DPs bearing structural case.

⁴¹Gavruseva even adopts a more articulated structure of noun phrases, where D and Agr share a set of uninterpretable features in languages that allow extraction. She goes on to argue that the extractability of possessors does not depend on the absence of D, but on the feature specification of the D head.

- (183) a. Über Scrambling hat er einem Buch über Optimalität einen
about scrambling has he a book_{Dat} about optimality an
Aufsatz hinzugefügt.
article_{Acc} added
'He has contributed a paper about scrambling to a book on optimality.' (from Starke 2001)
- b. An Studenten hat er schreckliche Morde begangen.
of students has he horrible murders committed
'Of students he has committed horrible murders.'

Notice further that subjects (184-a) and inherently marked DPs (184-b) are islands for movement in German (the examples are from Fanselow and Ćavar 2002).

- (184) a. *An Maria hat mich kein Brief erschreckt.
to Mary has me no letter frightened
'No letter to Mary has frightened me.'
- b. *An Studenten habe ich ihn schrecklicher Morde angeklagt.
of students have I him horrible_{Gen} murders_{Gen} accused
'I have accused him of horrible murders of students.'

Nevertheless, both subjects and DPs marked with inherent case can be split up.

- (185) a. Briefe an Maria haben mich keine erschreckt.
letters to Mary have me no frightened
'As for letters to Mary, they have not frightened me.'
- b. Schrecklicher Morde an Studenten ist er vieler beschuldigt.
horrible murders at students is he many accused
'He has been accused of many horrible murders of students.'

We can thus conclude that the movement which creates the split construction is insensitive to certain islands in both Serbian and German. On the other hand, locality constraints are respected by the second movement step. Violation of the Complex NP Constraint (186-a) and the *wh*-island constraint (186-b) yields a deviant output.

- (186) a. *Bücher habe ich eine Geschichte dass sie keine liest gehört.
books have I a story that she no reads heard
'I have heard a story that she does not read any books.' (from
Fanselow and Ćavar 2002)
- b. *Unbeschädigte Exemplare wollte er wissen, wer noch zwei auf
undamaged copies wanted he know who still two in
Vorrat hat.
stock has (from van Riemsdijk 1989)

Another interesting property of split topicalization constructions is the preservation of ordering restrictions. If the split occurs between the two prenominal elements, only the element closest to the head noun will appear in the topic position.⁴² As (187) illustrates, the ordering of adjectives is not free.⁴³

- (187) a. neue amerikanische Bücher
new american books
b. *amerikanische neue Bücher

The arrangement of adjectives is mirrored in the split case, as illustrated below. This state of affairs is expected under the analysis proposed here since an adjective can be extracted together with the noun only if it is adjacent to it.

- (188) a. Amerikanische Bücher kaufe ich neue.
American books buy I new
'As for American books, I buy new ones.'
- b. *Neue Bücher kaufe ich amerikanische.
new books buy I American

Finally, as in Serbian cases the formation of split DPs in German is driven by discourse properties. The difference however is that the position targeted in the left periphery of the clause is a topic position, whereas the stranded material bears (contrastive) focus (cf. Fanselow and Ćavar 2002, Hinterhölzl 2002). Hinterhölzl assumes that there is a Focus projection just above the licensing position of arguments of the verb. However, he argues that an account in terms of remnant movement cannot be maintained. If (188-a) is derived by first extracting *amerikanische*

⁴²While the behaviour of split constructions with respect to islands is problematic for both movement and base-generation approaches, the fact that the ordering of prenominal elements must be preserved in the discontinuous cases strongly favours movement analyses.

⁴³Recall that the same is true of Serbian, that is the evaluative adjectives necessarily precede the referential ones.

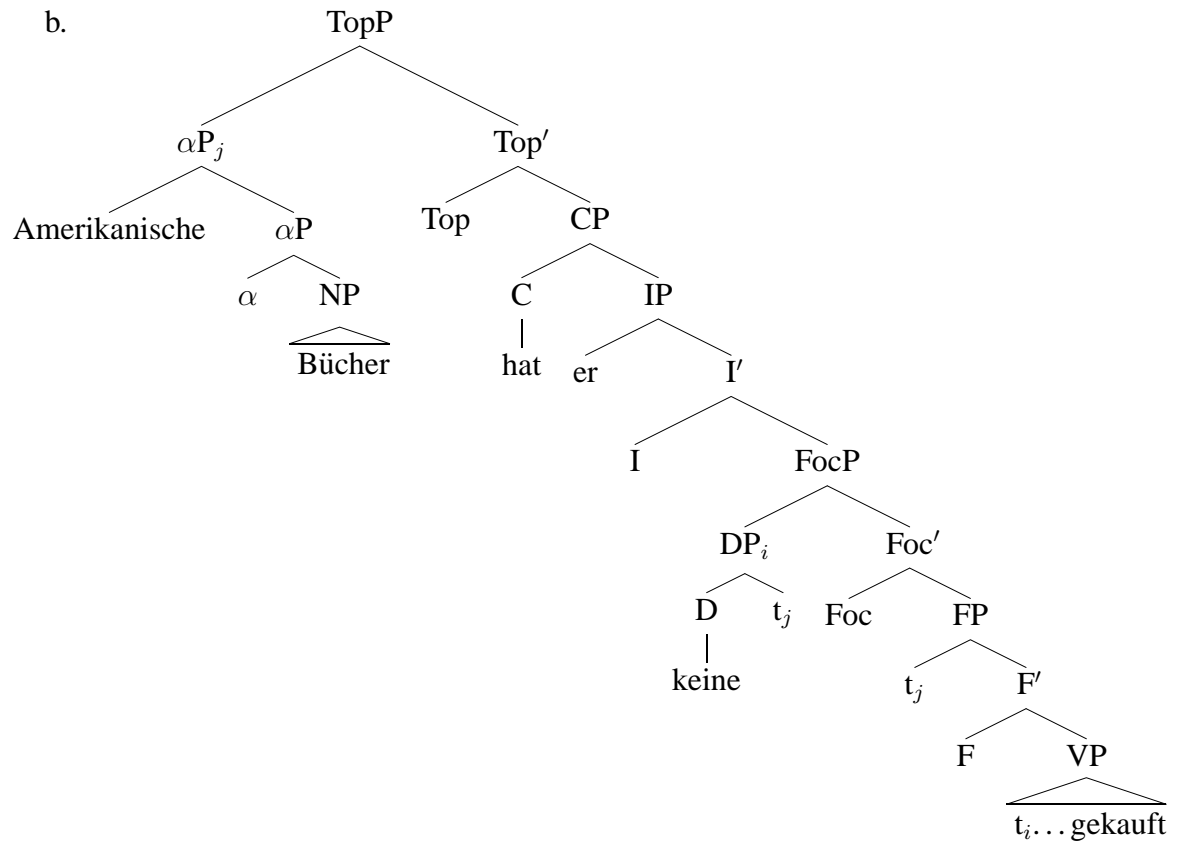
Bücher out of the object DP and moving it directly to the SpecCP, subsequent movement of the remnant DP to a lower position, that of the SpecFocP would lead to a violation of Strict Cyclicity.⁴⁴ If on the other hand, first the whole DP undergoes movement to SpecFocP, and then the non-focused material is extracted, we would expect a Freezing effect.⁴⁵ Let me illustrate a possible derivation of (188-a) involving remnant movement that sidesteps these problems.

As in the Serbian cases, the formation of the split is the result of the conflicting requirements within the DP, one part of it bearing topic features while the other is focused. I will assume then that the first step affects the non-focused material. We can treat this as an instance of *expulsion* movement, in a manner parallel to Serbian cases. Since the split is formed by the same type of movement in both languages, it is not surprising that it exhibits the same properties. The insensitivity of this movement step to islands is then captured in the same way as for Serbian splits, in other words *expulsion* is assumed not to be subject to Minimality. Notice that at this point in the derivation, the Top phrase which will ultimately attract the non-focused material has not yet been merged. The evacuation of the non-focused material is then followed by the merger of FocP, which attracts the remnant DP to its specifier. Finally, the topic phrase in the left periphery would attract the non-focused material. This is illustrated in (189-b)

- (189) a. Amerikanische Bücher hat er keine gekauft.
 american books has he none bought

⁴⁴Hinterhölzl assumes that the topic feature is checked in SpecCP.

⁴⁵Hinterhölzl (2002) and Müller (1998) among others assume that a Freezing effect occurs if extraction of a constituent A out of a constituent B takes place in a derived position of B. In other words, they argue that moved items are islands for extraction. However, it is far from obvious that this assumption is valid in general. See Starke (2001) for examples showing that extraction from an NP in derived position is allowed.



The derivation in (189-b) obeys cyclicity. Furthermore, as the split is not formed in the derived position, no freezing effects are expected. Since split constructions are allowed in German, we can conclude that the cause of cross-linguistic variability cannot be reduced to the presence of D, as German clearly has overt articles. Greek is another language that allows DPs to be discontinuous (examples are from Ntelitheos 2002, and Androutsopoulou 1998).⁴⁶

- (190) a. To kenurjio idha vivlio ke ohi to palio.
 the new saw book and not the old
 ‘I saw the new book and not the old one.’
- b. Tis Marias eferes to forema.
 the_{Gen} Mary_{Gen} brought the dress
 ‘It is Mary’s dress that you brought.’

⁴⁶Greek is known to allow more than one definite determiner in a single DP. However, Androutsopoulou (1998) argues that the stranded material in a split construction is an NP rather than a DP.

As in the Serbian cases, the remnant is fronted to the focus position in the left periphery. Notice that in Greek PPs can also be split.

- (191) me ble eghrapsa molivi.
with blue wrote-1sg pencil
'I wrote with a blue pencil.'

Finally, let me briefly comment on the impossibility of left branch extractions in Bulgarian. According to Bošković (2002), the facts from Bulgarian strongly support Corver's correlation between the presence of D and lack of LBE. Bulgarian differs from other Slavic languages in that it has overt articles. The definite article is an enclitic, which is attached to the first constituent in the DP.

- (192) a. momce-to
boy-the
b. goljamoto momce
big-the boy
c. *momceto goljamo
boy-the big
d. mnogo goljamoto momce
very big-the boy

Consider now the following contrast from Bošković (2002):

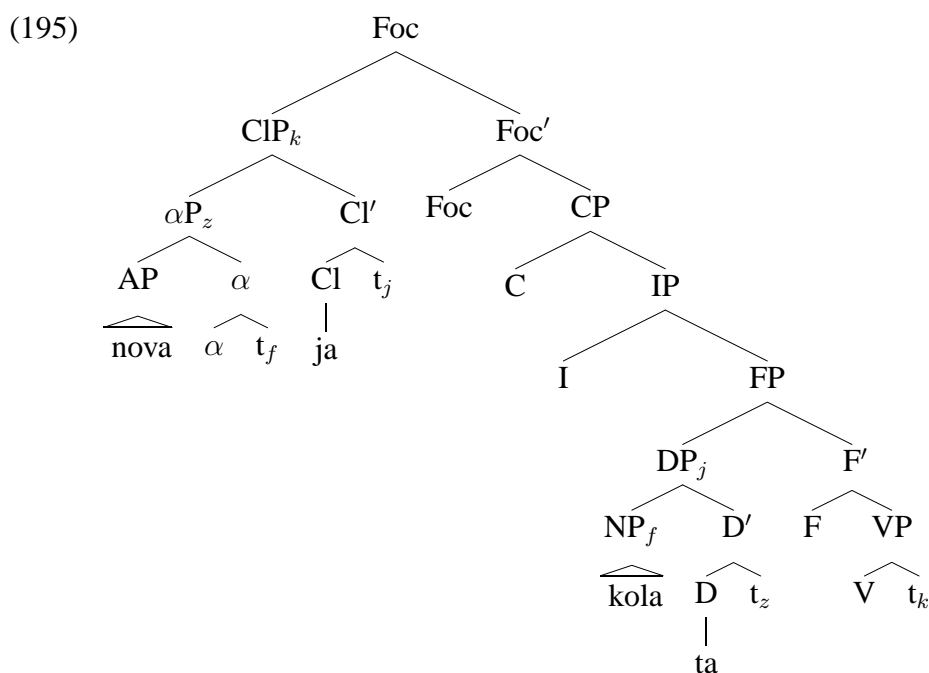
- (193) a. Petko prodade novata kola.
Petko sold new-the car
'Petko sold the new car'
b. *Novata prodade Petko kola.
new-the sold Petko car

It seems that the prenominal adjectives cannot be extracted and separated from the rest of the DP. However, the ungrammaticality of (193-b) may be due to an independent factor. According to my informants, the following examples are grammatical in Bulgarian:

- (194) a. Nova ja prodade kolata (toj).
new it-cl sold car-the (he)
'It was new car that he sold.'
b. Visoki gi haresva momičetata.
tall them-cl likes girls-the
'It is tall girls that he likes.'

Descriptively speaking, what this example shows is that the DP can in fact be split in Bulgarian, on condition that the article does not surface on the adjective.⁴⁷

Notice also that fronting of the adjective requires clitic doubling. Following Dimitrova-Vulchanova and Giusti (1998), I will assume that the clitic is generated in its own projection, on top of the DP. Let me illustrate now how the grammatical (194-a) is derived on the remnant movement approach. First the NP and the adjective are merged together. The noun and the adjective have conflicting features, only the adjective bears focus features. The split is formed as soon as the next projection is merged, that of the DP. The noun then separates from the adjective and moves to the specifier of DP. This is the reason why the article rather unexpectedly surfaces on the noun, and not on the adjective. The next step involves the merger of the CIP. At this point, the functional projection hosting the adjective moves to the Spec of CIP. Finally, the DP moves out, and the CIP is fronted to the left periphery of the clause. This is illustrated below.



⁴⁷The same cannot be tested with possessors since in Bulgarian possessors are expressed in the form of a PP, following the noun.

- (i) Novi knigi na Ivan
new books to Ivan
'Ivan's new books.'

What we can conclude from the derivation in (195) is that the adjective and the noun have to be split as soon as possible. The evacuation of the noun necessarily proceeds through the SpecDP position. If the noun skipped this position, the later movement of the adjective to the SpecDP to support the article would be counter-cyclic. The right result is then achieved on the derivational approach argued for here. On the other hand, the grammaticality of (194) provides the conclusive argument against a Corver-style analysis. The prediction that the presence of the article blocks extraction is not borne out. Even if the barrierhood of DP could be circumvented by cliticizing the article, the correct result cannot be obtained. Recall that according to Corver's analysis, a PP can lose its barrierhood if P cliticizes onto the adjective. If we assume the same for DPs, this would actually derive the ill-formed example (193-b). Obviously, the desired (194) cannot be derived on direct extraction approaches, where it is always the left branch constituent that moves, while the noun remains in its base position.

The following conclusions can be drawn from the discussion in this chapter. First, contrary to Corver's central claim, the availability of extraction does not correlate with the presence of determiners in a language. Secondly, I have argued that split constructions in Serbian should in fact be compared to other cases of split XPs, rather than to cases where a prenominal element has clearly been extracted. The comparison with split constructions in other languages gives us a more consistent set of data, and reveals some striking similarities. However, while we have determined that the presence of D is not responsible for disallowing XP-splits, it is unclear to me at this point what the exact source of the cross-linguistic variation is. While the contrast between Slavic and English can be attributed to any number of factors, I have no solution at this point as to why the more closely related languages, namely German and Dutch differ in the relevant respect (Dutch does not exhibit cases of split topicalization). However, insofar as the analysis of split constructions in Serbian proposed here is correct, it throws new light on the nature of cross-linguistic variation by bringing into play a different set of phenomena. Hopefully, this will bring us closer to resolving the source of parametric difference between languages that allow and those that disallow split-XPs. Clearly, a more detailed cross-linguistic investigation is required which is far beyond the scope of this thesis.

7 Conclusion

The focus of this study has been the contrast between Serbian and English regarding the possibility of extracting left branch constituents from within DPs as exemplified below.

- (196) a. *Koliko* su otpustili *radnika*?
how.many aux fired workers
'How many workers did they fire?'
b. *Koju* su zatvorili *fabriku*?
which aux closed factory
'Which factory did they close?'
- (197) a. *How much did he drink beer?
b. *Which did you like film?

Ever since Ross formulated the Left Branch Condition, prohibiting extraction of prenominal constituents from within noun phrases, the possibility of violating this condition in a language like Serbian has raised considerable interest in the literature. A number of proposals were put forward in an attempt to identify the locus of parametrization concerning the LBC. One line of thought has focused on the role of determiners, arguing that the determiner layer is systematically missing in languages which allow LBE. Whereas these approaches assume direct extraction of the left branch constituent from the dominating NP, I have argued that the formation of split constructions requires two instances of movement. In the particular version of the remnant movement analysis advocated here, the first movement step evacuates the non-focused material out of the DP/PP. The remnant XP then undergoes focus movement to the left periphery of the clause. I have argued that the proposed analysis is superior to alternative approaches as it straightforwardly captures a number of properties otherwise unaccounted for under the direct extraction accounts. In particular, the analysis in terms of two movement steps explains why both parts of the split phrase must appear in derived positions. Furthermore, the remnant movement approach easily tackles the problem regarding the apparent movement of a non-constituent in PP-splits. Finally, the preservation of ordering restrictions within the DP follows from the fact that only constituents adjacent to the noun can be evacuated together with it.

We have further seen that despite its apparent optionality, the formation of the split is in fact required when the focus domain needs to be restricted to the left branch constituent. In cases when only the prenominal element bears focus features, the non-focused material must vacate the DP before the remnant undergoes

movement to the specifier of Focus phrase. Focus movement is then a necessary ingredient of the split formation in Serbian. That this is indeed the case is suggested by the fact that XP-splits are infelicitous in out-of-the blue contexts, or when the prenominal constituent belongs to the presupposed part of the sentence. Further support is provided by the behaviour of split DPs involving multiple left branch constituents. We have seen that two prenominal modifiers can be separated only if one of them undergoes focus movement.

On the other hand, the behaviour of the first movement step forced us to reevaluate the standard assumptions concerning the nature of displacement. According to Chomsky (1995) and much subsequent work, movement is triggered by the need of the target to check off its formal features by attracting the closest constituent bearing the relevant feature. However, I have argued that not all movement operations should be characterized in terms of Attraction. Instead, I have proposed that the evacuation step responsible for the formation of the split is best analyzed as what I have termed an *expulsion* movement, driven by the properties of the displaced constituent, rather than by any formal requirement of the target. The insensitivity of *expulsion* to island effects has then been attributed to the different nature of this movement type. Suppose that all island constraints can be subsumed under a version of Relativized Minimality which requires the moved constituent to be the closest potential attractee that can satisfy the needs of the probe. In other words, the attraction of a constituent bearing a certain feature *F* will be blocked by an intervenor with the same featural make-up. Assuming then that *expulsion* is driven solely by the properties of the moved constituent, we do not expect any intervention effects to arise.

Insofar as the proposed analysis is successful in accounting for the properties of the split constructions, it has certain implications for the structure of Serbian noun phrases. First of all, I have reviewed several arguments in favour of bare NP structure for Slavic noun phrases. While the presented evidence turned out to be far from conclusive, I have argued that there is much to be gained in adopting the DP-hypothesis for Slavic as well. First of all, we maintain the idea that the presence of *D* is a universal property. Secondly, we retain the parallelism between nominal and clausal structure in assuming that both NPs and VPs are dominated by functional layers. Finally, we do not have to allow for different ways of calculating referentiality in different languages. While the arguments regarding the status of prenominal elements can go both ways, that is they can but need not be uniformly treated as adjectives, the possibility of LBE actually constituted the strongest piece of evidence against DP-hood of Slavic NPs. However, once we reanalyze these constructions as involving remnant movement rather than extraction of a left branch constituent, we also dispense with the main argument that led to the abandonment of DP structure for Slavic. The analysis also contributed to the debate concerning the structural location of adjectives by providing further

support to a Cinque-style approach, where adjectives occupy specifier positions of distinct functional projections.

Finally, I have briefly investigated the possible sources of cross-linguistic variation. I have argued that despite its initial appeal, the parametric difference regarding the availability of split constructions cannot be reduced exclusively to the presence of D. It was shown that Bulgarian, which differs from other Slavic languages in having overt articles, does in fact allow formation of split constructions under certain conditions. Thus, the empirical facts from Bulgarian, which originally seemed strongly to support a Corver-style approach, in fact prove that such an analysis is untenable.

On the other hand, the account proposed here shifts the focus of cross-linguistic comparison from cases clearly involving extraction of a prenominal element, to other instances of split-XP formation. One such construction is arguably found in German. The cases of split topicalization in German display some striking similarities with Serbian structures; in particular, the formation of the split is driven by discourse properties, the movement involved is insensitive to certain islands, and the ordering patterns within the DP are necessarily preserved. Although it is clear that a more detailed investigation is needed, hopefully the proposed analysis will take us in the right direction and bring us a step closer to identifying the locus of cross-linguistic variation.

References

- Abels, K. 2003. Successive cyclicity, anti-locality, and adposition stranding. Doctoral Dissertation, University of Connecticut, Storrs.
- Abney, S. 1987. The English Noun Phrase in its Sentential Aspect. Doctoral Dissertation, MIT.
- Aboh, E. 1998. From the Syntax of Gungbe to the grammar of Gbe. Doctoral Dissertation, University of Geneva.
- Alboiu, G. 1999. (de)-Focusing and Object Raising in Romanian. *Canadian Journal of Linguistics* 44:1–22.
- Alexiadou, A. 2001. *Functional structure in nominals: nominalization and ergativity*. Amsterdam: John Benjamins.
- Alexiadou, A, E. Anagnostopoulou, S. Barbiers, and H.-M. Gärtner. 2002. Introduction. In *Dimensions of Movement*, ed. A. Alexiadou, E. Anagnostopoulou, S. Barbiers, and H.-M. Gärtner, 3–17. Amsterdam: John Benjamins.
- Androutsopoulou, A. 1998. Split DPs, Focus, and Scrambling in Modern Greek. In *Proceedings of WCCFL 16*, 1–16.
- Baker, M. 2003. *Lexical Categories. Verbs, Nouns, and Adjectives*. Cambridge: Cambridge University Press.
- Besten, H. den, and G. Webelhuth. 1990. Stranding. In *Scrambling and Barriers*, ed. G. Grewendorf and W. Sternefeld, 77–92. Amsterdam: John Benjamins.
- Borer, H. 2003. Structuring Sense. An Exo-Skeletal Trilogy. Ms., USC.
- Bošković, Ž. 1997. *The syntax of nonfinite complementation: An economy approach*. Cambridge, Massachusetts: MIT Press.
- Bošković, Ž. 2001. *On the nature of the syntax-phonology interface: Cliticization and related phenomena*. Amsterdam: Elsevier Science.
- Bošković, Ž. 2002. On left branch extraction. In *The Proceedings of the 4th European Conference on Formal Description of Slavic Languages*.
- Cardinaletti, A. 1998. On the deficient/strong Opposition in Possessive System. In *Possessors, Predicates and Movement in the Determiner Phrase*, ed. A. Alexiadou and Wilder C., 17–53. Amsterdam: John Benjamins.
- Chomsky, N. 1986. *Barriers*. Cambridge, Massachusetts: MIT Press.

- Chomsky, N. 1995. *The Minimalist Program*. Cambridge, Massachusetts: MIT Press.
- Chomsky, N. 2000. Minimalist inquiries: The framework. In *Step by Step: Essays in Minimalist Syntax in Honour of Howard Lasnik*, ed. R. Martin, D. Michaels, and J. Uriagereka, 89–155. Cambridge MA: The MIT Press.
- Chomsky, N. 2001. Derivation by phase. In *Ken Hale: a life in language*, ed. M Kenstowicz, 1–50. Cambridge, Massachusetts: MIT Press.
- Cinque, G. 1993. A null theory of phrase and compound stress. *Linguistic Inquiry* 24:239–298.
- Cinque, G. 1994. On the evidence for partial N-movement in the Romance DP. In *Paths Towards Universal Grammar*, ed. G. Cinque, J. Koster, J.-Y. Pollock, L. Rizzi, and R. Zanuttini, 85–110. Georgetown: Georgetown University Press.
- Corver, N. 1990. The syntax of left branch extractions. Doctoral Dissertation, University of Tilburg.
- Corver, N. 1992. On Deriving Certain Left Branch Extraction Asymmetries: A Case Study in Parametric Syntax. In *Proceedings of NELS 22*, 67–84.
- Delsing, L.-O. 1993. The Internal Structure of Noun Phrases in the Scandinavian Languages. Doctoral Dissertation, University of Lund.
- Diesing, M. 1992. *Indefinites*. Linguistic Inquiry Monograph 20. Cambridge: MIT Press.
- Dimitrova-Vulchanova, M., and G. Giusti. 1998. Fragments of Balkan Nominal Structure. In *Possessors, predicates, and movement in the DP*, ed. Artemis Alexiadou and Wilder Chris. Amsterdam: John Benjamins.
- Fanselow, G. 1992. Deplazierte Argumente. Ms. Universität Stuttgart.
- Fanselow, G., and D. Ćavar. 2002. Distributed deletion. In *Theoretical Approaches to Universals*, ed. A Alexiadou, 65–107. Amsterdam: John Benjamins.
- Franks, S., and Lj. Progovac. 1994. On the displacement of Serbo-Croatian clitics. *Indiana Linguistic Studies* 7:69–78.
- Gavruseva, E. 2000. On the syntax of possessor extraction. *Lingua* 110:743–72.
- Giorgi, A, and G. Longobardi. 1991. *The Syntax of Noun Phrases*. Cambridge: Cambridge University Press.

- Giusti, G. 1993. *La sintassi dei determinanti*. Padova: Unipress.
- Grimshaw, J. 1990. *Argument Structure*. Cambridge, Massachusetts: MIT Press.
- Haider, H., and I. Rosengren. 1998. *Scrambling*. Lund: Germanistisches Institut der Universität Lund.
- Halpern, A. 1995. *On the Placement and Morphology of Clitics*. Stanford: CSLI Publications.
- Hinterhölzl, R. 2002. Remnant Movement and Partial Deletion. In *Dimensions of movement*, ed. A. Alexiadou, E. Anagnostopoulou, S. Barbiers, and H.-M. Gaertner. Amsterdam: John Benjamins.
- Hoop, H. de. 1992. Case Configuration and Noun Phrase Interpretation. Doctoral Dissertation, University of Groningen.
- Julien, M. 2002. Determiners and word order in Scandinavian DPs. *Studia Linguistica* 56:265–315.
- Kayne, R. 1994. *The antisymmetry of syntax*. Cambridge, Massachusetts: MIT Press.
- Kayne, R. 1998. Overt vs covert movement. *Syntax* 1 128–191.
- Koopman, H., and A. Szabolcsi. 2000. *Verbal Complexes*. Cambridge, Massachusetts: MIT Press.
- Krifka, M. 1998. Scope inversion under the rise-fall contour in German. *Linguistic Inquiry* 29:75–112.
- Longobardi, G. 1994. Reference and proper names: a theory of n-movement in syntax and logical form. *Linguistic Inquiry* 25:609–665.
- Müller, G. 1998. *Incomplete Category Fronting*. Dordrecht: Kluwer.
- Ntelitheos, D. 2003. The Syntax of Emphasis: Split DPs and Nominal Ellipsis. Paper presented at the 6th International Conference of Greek Linguistics.
- Pereltsvaig, A. 2004. Small Nominals in Argument Positions. Ms., University of Sheffield.
- Pesetsky, D., and E. Torrego. 2001. T-to-C movement: Causes and Consequences. In *Ken Hale. a Life in Language.*, ed. Michael Kenstowicz, 355–426. Cambridge, Mass: MIT Press.

- Progovac, Lj. 1996. Clitics in Serbian/Croatian:Comp as the second position. In *Approaching second:Second position clitics and related phenomena*, ed. A. Halpern and A. Zwicky, 411–428. Stanford, California: CSLI.
- Progovac, Lj. 1998. Determiner Phrase in a language without determiners. *Journal of Linguistics* 165–179.
- Rappaport, G. 2001. Extraction from Nominal Phrases in Polish and the Theory of Determiners. *Journal of Slavic Linguistics* 8.
- Reinhart, T. 1995. *Interface Strategies*. Utrecht: OTS Working Papers.
- Riemsdijk, H. van. 1989. Movement and Regeneration. In *Dialect Variation and the Theory of Grammar*, ed. P Benica. Dordrecht: Foris Publications.
- Riemsdijk, H. van. 1997. Push Chains and Drag Chains: Complex Predicate Split in Dutch. In *Scrambling*, ed. S Tonoike, 7–33. Tokyo: Kurosio Publishers.
- Rizzi, L. 1990. *Relativized Minimality*. Cambridge, Massachusetts: MIT Press.
- Rizzi, L. 2004. On the Form of Chains: Criterial Positions and ECP Effects. Ms., University of Siena.
- Ross, J.R. 1967. *Infinite syntax*. Norwood: Ablex Publishing.
- Schoorlemmer, M. 1998. Possessors, articles and definiteness. In *Possessors, predicates, and movement in the DP*, ed. Artemis Alexiadou and Wilder Chris. Amsterdam: John Benjamins.
- Sproat, R., and C. Shih. 1991. The cross-linguistic distribution of adjective ordering restrictions. In *Interdisciplinary approaches to language*, ed. C. Georgopoulos and Ishihara R., 565–593. Dordrecht: Kluwer.
- Starke, M. 2001. Merge Dissolves into Move. Doctoral Dissertation, University of Geneva.
- Stjepanović, S. 1998. Extraction of adjuncts out of NPs. Presented at the Comparative Slavic Morphosyntax Workshop, Indiana.
- Svenonius, P. 1994. The structural location of the attributive adjective. In *Proceedings of the Twelfth West Coast Conference of Formal Linguistics*. Stanford CA: CSLI.
- Szabolcsi, A. 1994. The noun phrase. In *Syntax and Semantics 27. the syntactic structure of Hungarian*, ed. F. Kiefer and K.É. Kiss, 179–274. San Diego: Academic Press.

References

- Taraldsen, T. 2000. V-movement and VP-movement in derivations leading to VO order. In *The Derivation of VO and OV*, ed. P Svenonius. Amsterdam: John Benjamins.
- Zlatić, L. 1997. The Structure of the Serbian Noun Phrase. Doctoral Dissertation, University of Texas at Austin.